

LOVELL for CONSTRUCTION

FINANCIAL TIMES

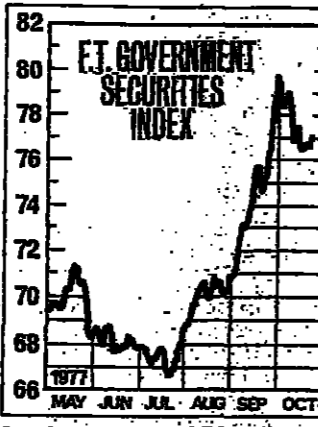
No. 27,387 Wednesday October 19 1977 \*12p

another IDC design & build contract
IDC New £8 million LIVERPOOL HEAD POST OFFICE
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LAW SUMMARY

GENERAL
Police pay
Police pay
Police pay

BUSINESS
Equities rise 14.0; gilts advance
EQUITIES moved ahead with market sentiment buoyed by optimism about prospects for wage restraint.



FT GOVERNMENT SECURITIES INDEX

James Jardine, chairman of Police Federation, said he would welcome any formula the Government could find to pay more. He wanted to see a cash put on the table.

John Anderson, a 67-year old driver and former RUC resist, was shot dead in an ambush at Girvan's Bridge, Ayr.

Shell to cut staff by 400
SHELL U.K. OIL plans to cut its staff by about 400 over the next two years.

35 round trip
ave will offer 35 return between London and New York next summer.

to mediator
mediator's report on the month-old strike in support of a closed shop by journalists north of England.

bratlar talks
Dr. Suarez starts the first visit to Britain by a Spanish Prime Minister since the war.

elgrade clash
U.S. and Soviet Union shed over human rights at the 12-day conference.

il-weather food
George Bassett of Sheffield has a £1m. order to supply 5m. of nougat to Saudi Arabian households.

riefly...
Ing Crosby was hurt in Los Angeles after a funeral attended by his family and close friends.

OMPANIES
MARKS AND SPENCER made higher pre-tax profit.

MARKS AND SPENCER made higher pre-tax profit of £28.7m. in the first half.

BROOKS BOND LIEBIG lifted pre-tax profit to £49.5m. in the year to June 30.

FURNESS WITHY made first half pre-tax profit of £13.27m. (£11.42m.).

CHIEF PRICE CHANGES YESTERDAY
Prices in pence unless otherwise indicated

Table with columns for RISES and FALLS, listing various commodities and their price changes.

Leyland to ballot on central bargaining

By PAULINE CLARK AND CHRISTIAN TYLER
An attempt to break the deadlock on industrial relations reforms for British Leyland's struggling cars group is to be made with a secret ballot of its 100,000 manual workers.

The decision was made by 250 senior stewards in London yesterday after a big majority in favour of accepting the reforms. Government to ask that the 12-month rule on pay settlements be waived.

Ford vote
The chances that Ford workers in Britain will finally opt to avoid a major confrontation with the Government on pay this year improved yesterday.

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Further rise in yen

By Peter Riddell, Economics Correspondent

UNSETTLED CONDITIONS in foreign exchange markets continued yesterday with sharp fluctuations in the Canadian dollar and a further rise in the Japanese yen against the U.S. dollar.

Business was described by dealers as generally quieter than on Monday.

The Canadian dollar dropped sharply in early trading yesterday to a value of 89.8 U.S. cents.

The weakness of the Canadian dollar was the sole reason for a slight narrowing from 1.55 to 1.27 per cent in the trade-weighted depreciation of the U.S. dollar.

The U.S. dollar remained weak against the Japanese yen and declined to a new Tokyo low of ¥251.56 at one stage before closing in London ¥253 down at ¥252.

The dollar started yesterday slightly firmer in Europe, partly because of central bank intervention.

The Swiss franc, which yesterday reached its long-awaited parity with the West German mark, reached a best level of Sfr.2.25 against the dollar before closing at Sfr.2.2574 on Monday.

Sterling had another firm day against the U.S. dollar, gaining 17 points to close at \$1.7740.

The pound also gained against other currencies and the trade-weighted index rose from 62.4 to 62.5. This is equal to the highest level in 13 months and was last touched at the close in mid-September, though it has been seen during the day several times in recent weeks.

Editorial comment Page 20
Canadian dollar falls, Page 5



Freed hostages arrive at Frankfurt.

Terrorists commit suicide

BY OUR FOREIGN STAFF
THREE LEADING Eader-Meinhof gang terrorists were reported to have killed themselves in Stammheim jail in Stuttgart yesterday.

Andreas Bader and Jan Carl Raspe shot themselves, and Gudrun Ensslin hanged herself, according to the Justice Minister of Baden-Wuerttemberg.

The State Government of Baden-Wuerttemberg yesterday invited two independent forensic scientists and an Amnesty International representative to take part in official post-mortems.

Meanwhile, officials feared that the freeing of the hostages held in a Boeing 737 at Mogadishu airport might lead to the death of industrialist Dr. Hanns-Martin Schleyer, held captive for six weeks by the German Red Army faction.

Growing discontent among pilots over inadequate protection against hijacking became apparent with the call by the president of the International Federation of Airline Pilots' Association for a 48-hour strike from October 25.

Herr Schmidt also spoke himself for an hour on Monday night by telephone to President Mohammed Siad Barre of Somalia.

Although Herr Schmidt spoke by telephone to President Carter, it was unclear whether the President had contacted the Somalis.

Following the rescue, the Somali Information Minister Khalid in use his influence on the Somali's Herr Franz-Joseph Strauss, leader of the Bavarian Christian Social Union, who was in Jeddah at the time of the hijacking, also immediately inter-

vened with the Saudi authorities at Bonn's request. It was suggested in Washington that there had been some considerable U.S. involvement in the affair.

Both Saudi Arabia and the U.S. were involved in persuading the Somalis to allow the use of West German troops on their soil, and France, the U.K., Greece, and it is thought even East Germany also lent assistance.

Saudi Arabia played an especially prominent role after a telephone call from Herr Helmut Schmidt, the West German Chancellor requesting King Khalid to use his influence on the Somali's Herr Franz-Joseph Strauss, leader of the Bavarian Christian Social Union, who was in Jeddah at the time of the hijacking, also immediately inter-

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Italy to sign \$3bn. gas contract with Algeria

By PAUL BETTS
ROME, Oct. 18. It is in two phases. One contract, to be signed by Sig. Sette and the Algerian authorities, will cover financial aspects of the project.

A second will involve Sig. Lorenzo Rosato, chairman of the ENI subsidiary, SNAM, and the Algerian national oil company, Sonatrach, and will deal specifically with the supply and cost of Algerian natural gas to Italy.

Although the Algerian Government has asked Italy to provide some \$350m. in credit lines for the initial stages of the project, ENI said today that it would not affect the two contracts.

The Italian inter-ministerial committee on export credits was meeting here to-night to consider the granting of a package of some \$2.5bn. in export credits to Algeria, including nearly \$2bn. for the construction of a 100,000-cars-a-year complex at Oran by the Fiat group.

However, ENI said to-night that the pipeline deal would go ahead even if the Italian authorities did not provide a credit line.

ENI said that SNAM and Sonatrach would not the project out to tender, but it was expected to go in the two ENI engineering subsidiaries, Snamprogetti and Saipem, which have already demonstrated that the pipeline can be laid by remote manipulation on the brittle irregular seabed and that it can also be recovered and repaired.

The deal, which is worth some \$1bn. more than the recently negotiated Italian contract to build a harbour and steel complex at the Iranian port of Bandar Abbas, will be signed on Saturday during a three-day visit to Algeria by the Italian Foreign Trade Minister, Sig. Rinaldo Ossola.

The new pipeline will run from the Algerian desert through the field of Hassi Rmel through Tunisia and across the Straits of Sicily. It will then cross under the Straits of Messina to the Italian mainland and continue as far north as Bologna. There are provisions in the outline plan for extension, if necessary, to other European countries such as West Germany and France.

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Financial Times Wednesday October 19 1977

# The Lady from Maxim's

by B. A. YOUNG

Mortimer again shows self an ideal translator of *The Lady from Maxim's*. The play is a comedy of manners set in a Parisian club in 1898. The plot is simple, but the writing is witty and sophisticated. The play is a comedy of manners set in a Parisian club in 1898. The plot is simple, but the writing is witty and sophisticated.



Michael Bryant, M6rag Hood and Timothy Davies

oyal College of Music

## BBC Invitation Concert

by ARTHUR JACOBS

Banging, stroking, shaking requires the taped electronic... requires the taped electronic... requires the taped electronic...

### ENTERTAINMENT GUIDE—Cont.

Table with columns for Theatres, Art Galleries, Cinemas, and Clubs, listing various venues and their programmes.

# Games People Play

by CHRIS DUNKLEY

Any television producer looking for a dead cert ratings winner might like to consider the following programme scenario: Open with a croupion on Big Ben...

The party occupies the second act, less of a development than some of Feydeau's second acts, but a hilarious romp where Feydeau's ferde invention is brought to happy life. The third act makes a pretence of clearing up the troubles as if the events of a Feydeau second act were ever capable of being cleared up.

## Theatre Royal, Bristol Hamlet by B. A. YOUNG

The Bristol Old Vic's Hamlet has welcome old-fashioned... Hamlet has welcome old-fashioned... Hamlet has welcome old-fashioned...

The second most tedious characteristic is Stuart Hall's logarithmic which seems to have caught from Women's Own: "I want a heck of a cheer to rend the night sky..."

### The Entertainment Guide starts on Page 36

beat Sidney Sussex, Cambridge, by 250 to 220, dashing in with answers to questions such as "Whom did the daughter of the Earl of Strathmore marry..."

## Festival Hall

### Gilels & Muti

by DOMINIC GILL

Last night's concert of Mozart and Schumann given by the Philharmonia Orchestra under Riccardo Muti...



Stuart "Guru Juste" Hall and Gennaro Olivieri in "Jeux Sans Frontieres" (BBC 1)

The Mastersp, involves general knowledge and tests of skill—throwing a hand grenade for instance—as well as some rather crazy parlour (well, studio) games...

Advertisement for The Madison hotel in Washington, D.C., featuring the text "A Renaissance of Graciousness" and contact information.

Advertisement for Hickard's Rentals, specialists in contract hire and leasing, with contact details for Andrew Morris.

# THE CLAN MCCANNY

Large advertisement for Scottish Provident life insurance, featuring a cartoon illustration of a man and woman, and text describing the benefits and flexibility of their plans.

EUROPEAN NEWS

Jenkins plan to aid EEC applicants

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT

THE NINE states in the EEC should consider launching a big programme to help Greece, Spain and Portugal raise their economic performance...

Jail sentences imposed in Czech human rights trial

BY PAUL LENDVAI

A PRAGUE court today sentenced four Czechoslovak human rights activists...

Soviet dissident agrees to leave

BY DAVID SASSER

MRS. TATYANA KHODOROVICH, the last remaining Soviet director of an unofficial fund to aid political prisoners...

governments were raised to 60 per cent of the average within the EEC, it would be necessary to raise sums which would double the present national fiscal resources of Portugal...

Mr. Jenkins's address was intended as a report on the Commission's progress so far in preparing proposals for EEC enlargement...

Well failure hits Irish hopes of oil discovery

BY GILES MERRITT

IRISH HOPES of an offshore oil well have received a new and significant setback with the announcement by the Shell-Agip consortium...

Deadlock in Dutch crisis

BY MICHAEL VAN OS

THE DUTCH Cabinet formation talks appeared to be heading to a deadlock again in The Hague today after the two largest parties...

JET to be set up in U.K., Germany

BY ADRIAN DICKS

THE PRIME MINISTER and Chancellor Schmidt today reached a compromise on the Joint European Torus nuclear fusion research project...

Belgian Bill for European Parliament poll

BY DAVID BUCHAN

THE TINDEMANS CABINET has approved a draft Bill for Belgium to elect directly its 24 members next year to the European Parliament...

Spanish Prime Minister arrives in London to-day

BY ROBERT GRAHAM

SR. ADOLFO SUAREZ, the Spanish Prime Minister, leaves here for London to-morrow on the first official visit by a Spanish Premier to Britain since the civil war...

PORTUGUESE INDUSTRY CRITICISES GOVERNMENT

BY OUR OWN CORRESPONDENT

THE CONFEDERATION OF Portuguese Industry (CIP), which represents about 30,000 private companies, has reacted sharply to President Antonio Ramalho Eanes' recent reined criticism of management...

LISBON, Oct. 18.

private industry the scapegoat for Portugal's present troubles the CIP note says "although we have been belittled and vilified, private investors have been the only factor preventing total collapse of the Portuguese economy..."

Credits honeymoon is over

BY DIANA SMITH IN LISBON

State-owned companies, with a few honoured exceptions in ship repairs and transport materials, have not done well in the past two years...

Political uncertainty has aggravated the doubts of private management. Wildcat and official strikes have cost Portugal a fortune in man-hours.

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Kreisky renews criticism of central bank chief

BY OUR OWN CORRESPONDENT

DR. BRUNO KREISKY, the politician rather than a central bank chief, has renewed his criticism of the Austrian Federal Chancellor, Dr. Helmut Klenz...

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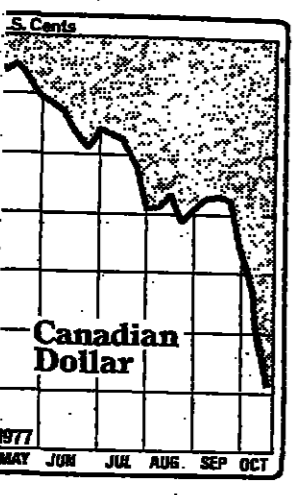
50 Avenue Foch advertisement. Includes text: "Would you like to live on Avenue Foch in Paris? Then you might as well live on the best side: the right side as you go down. The sunny side. The number 50 side..."

Handwritten signature or note at the bottom of the page.

AMERICAN NEWS

Canadian \$ slumps to lowest level since early 1930s

JAMES SCOTT TORONTO, Oct. 18. CANADIAN dollar has now reached its lowest level relative to the U.S. dollar since the early 1930s...



Canada does not intend to use exchange controls, as has been rumoured for the past two weeks. The decline in the past week is attributed to foreign exchange...

SEC plans options investigation

By Our Own Correspondent NEW YORK, Oct. 18. THE U.S. Securities and Exchange Commission (SEC) today announced a major investigation into abuses in the stock options markets...

U.S. proposes to store spent N-fuel

WASHINGTON, Oct. 18. THE CARTER Administration proposed today that the U.S. government should take over responsibility for the storage of spent fuel from nuclear power plants both here and overseas...

Brzezinski forecasts arms 'parity'

By Our Own Correspondent WASHINGTON, Oct. 18. THE NEW strategic arms agreement with the Soviet Union will displace past "parity" equality between the two superpowers...

Steel chief backs hard line on dumping

NEW YORK, Oct. 18. MR. EDGAR SPEER, chairman of United States Steel, the largest U.S. steel company, today announced that he has moved to reassert other executives in the industry and Congressional leaders backing the sector...

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Pay, price controls to end

OTTAWA, Oct. 18. GENERAL wage and price controls will be ended early next year, Queen Elizabeth said in a speech opening Parliament...

Shah to visit Washington

WASHINGTON, Oct. 18. THE SHAH of Iran will pay an official visit to Washington in a November 1978. His meetings with President Carter are expected to cover security in the Gulf area and other issues...

Strike ends in Dominica

By Tony Bridgier BRIDGETOWN, Oct. 18. A STRIKE by civil servants in the British Associated State of Dominica, in the Windward Islands, ended today with the Government agreeing to pay \$1.1 million...

World Bank travel row

WASHINGTON, Oct. 18. SENIOR officials of the World Bank have used the Concorde supersonic airliner about 500 times in the past year, a bank spokesman confirmed today. The bank's comment follows a four-week study of the travel costs of the U.S. Government and the World Bank by an American news agency...

OVERSEAS NEWS

Power workers in Victoria strike again

BY KENNETH RANDALL CANBERRA, Oct. 18.

ABOUT 2,300 maintenance workers in Victorian Government power stations went on strike "indefinitely" today, threatening to precipitate the most serious industrial confrontation in Australia of the past 30 years.

Tiny Rowland returns to Lusaka

BY OUR FOREIGN STAFF

ZAMBIA yesterday gave its first public confirmation that Mr. Rowland (Tiny) Rowland was the middleman who organised last month's secret meeting between Mr. Ian Smith, the Rhodesian Prime Minister, and President Kenneth Kaunda of Zambia.

game lodge in the Luangwa Valley Park, eastern Zambia. Official spokesmen refused to say what he was doing in Zambia with the same Grumman Gulfstream 2 executive jet aircraft that brought Mr. Smith to Lusaka on September 25.

Smith says U.S. should detach itself from U.K.

BY DAVID BELL

WASHINGTON, Oct. 18.

THE U.S. is being "dragged along by Britain into imposing a preconceived solution" in Rhodesia, Mr. Ian Smith, the Rhodesian Prime Minister, said in an interview published here this morning.

S. Africa troops must quit Namibia, insists Nujoma

BY OUR OWN CORRESPONDENT UNITED NATIONS, Oct. 18.

MR. SAM NUJOMA, president of the South-West Africa People's Organisation (Swapo), today offered cautious encouragement to the five Western members of the UN Security Council to continue their efforts at a negotiated solution with South Africa of the problem of Namibia (South-West Africa).

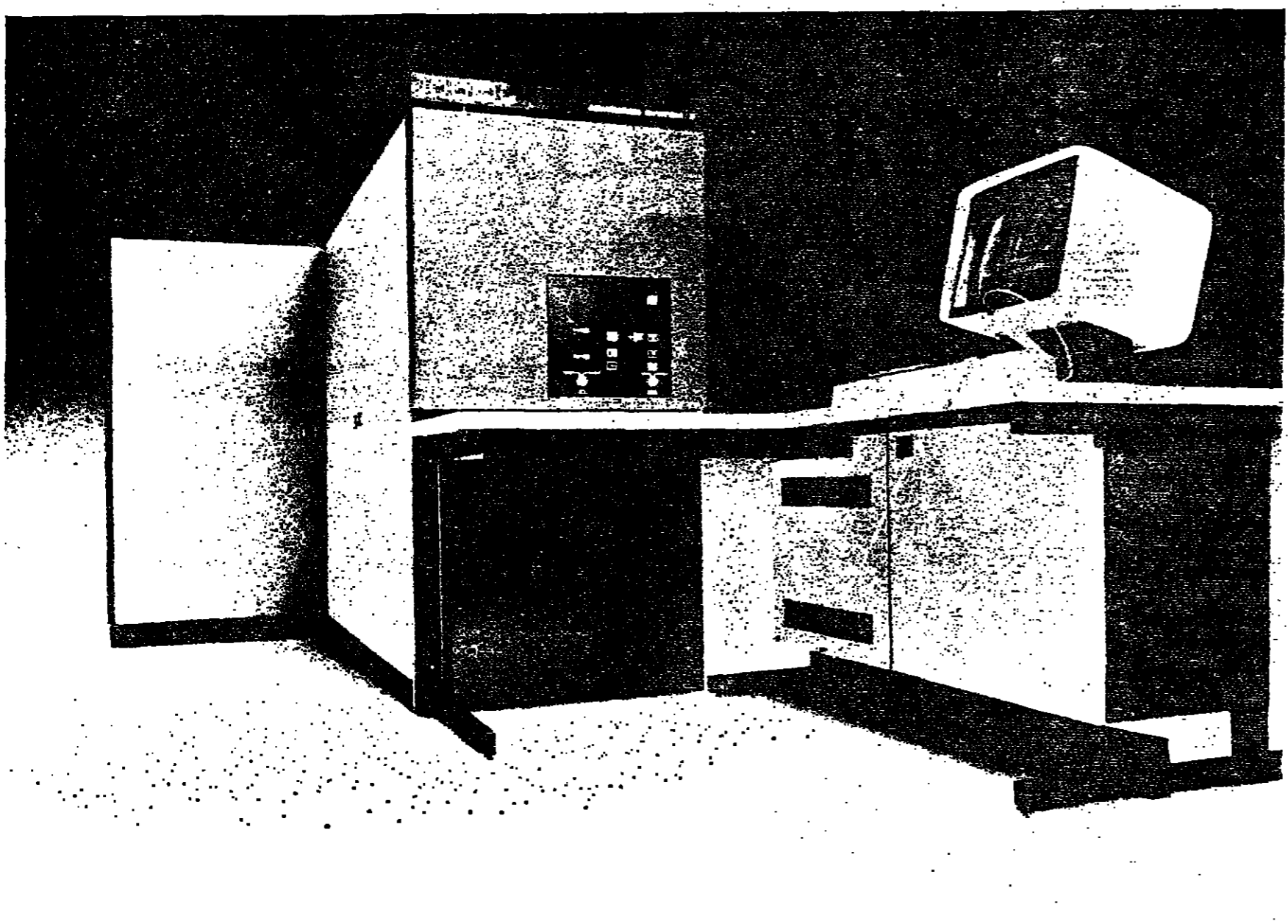
MALAYSIA'S RULING PARTIES

A coalition splitting at its seams

BY WONG SULONG IN KUALA LUMPUR

MALAYSIA'S ruling national front, a grand coalition of 11 parties, is splitting at its seams. Events in the past weeks have cast serious doubts whether the partners will still be partners when they go to the polls, widely expected to be held either in April or August next year.

The rift could open up a period of communal politics and instability not seen since the Malay-Chinese racial riots of 1969. The United Malays National Organisation (UMNO), the dominant partner in the front and which controls the Federal Government, has shown in the past that when its influence among the Malays is under threat it can outbid its rivals in being more Malay, Islamic and nationalistic.



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Transkei loan faces sceptical capital market

By Quentin Peel

JOHANNESBURG, Oct. 18.

THE INDEPENDENT Bantustan in South Africa, Transkei, is to approach the Johannesburg capital market this week for a loan scheduled at R16m (£10.6m), in what is seen as a major test of the political and financial credibility of Transkeian independence.

DMC may now join Begin coalition

By David Lemmon

TEL AVIV, Oct. 18.

PROSPECTS that the narrow coalition Government of Mr. Menachem Begin, the Israeli Prime Minister, may be broadened by the addition of the Democratic Movement for Change, have been revived following secret talks between the parties.

Rivalry

But by far the most serious threat to the national front's seven-year-old existence may not be open split between the two Malay parties, following the dismissal of the Chief Minister of Kelantan last Saturday.

DAILY FLIGHTS TO NEW YORK.

Iran Air advertisement: Iran Air have flights to New York every day of the week. All by Jumbo. Either our latest plane, the 747-200B; or the 747SP, the 'Special Performer'. All leaving Heathrow at 14.15. And arriving at 16.45 at JFK's speedy 'Worldport' terminal. For details, or to make reservations, see your travel agent. IRAN AIR The world's fastest growing airline.

Lch advertisement: The quarterly report as of 30th June, 1977 of Leveraged Capital Holdings N.V. has been published and may be obtained from PIERSON, HELDRING & PIERSON N.Y. Amsterdam.

WORLD TRADE NEWS

West German imports of U.K. goods soar 22%

BY GUY HAWTHORN

FRANKFURT, Oct. 18.

BRITAIN'S exports to West Germany rose by close to 22 per cent in the first eight months of the year. Growth appears to have been accelerating steadily...

Vickers wins \$1m. orders for analysers

By David Fishlock Science Editor

VICKERS, the engineering group, marked its re-entry into the market for advanced medical technology by announcing yesterday that it had won orders worth more than \$1m. for a system that doubles the productivity of automatic medical assay methods.

EEC check on Comecon trade deals

BY KEVIN DONE, CHEMICALS CORRESPONDENT

THE EUROPEAN Commission is to consider ways of monitoring the growing number of compensation trading deals with Comecon countries. The Commission's Director-General of Industrial Affairs, has told industry leaders that monitoring the compensation deals should be considered on a Community basis.

The notion that such steps, which were intended primarily for the former colonial African territories, should be conceded to countries such as Romania with significant industrial potential, was absurd.

VIENNA, Oct. 18.

Renault offshoot to build truck plant in Pakistan

BY IQBAL MRZA

KARACHI, Oct. 18.

THE Government of Pakistan and Renault, a subsidiary of Renault, have signed an agreement to set up a commercial trucks manufacturing plant in Pakistan.

The January-August figures show that overall British exports to the Federal Republic went up by 21.8 per cent from the previous year's DM5.45bn. to DM6.64bn. (£1.65bn.). At the same time, the Federal Republic's total imports rose from DM144.15bn. to DM154.02bn. (£37.8bn.).

Japanese court move over Italian motor-cycle curbs

BY DAVID SUCHAN

BRUSSELS, Oct. 18.

THE ITALIAN subsidiaries of three Japanese motor-cycle companies — Suzuki, Kawasaki, and Yamoto — and two Italian importing houses have taken the EEC Council to the European Court of Justice over a July decision allowing Italy to reimpose quotas on imports of Japanese motor-cycles, a court official said today.

The complaint on motor-cycles coincides with moves in the European Court by Japanese bearing makers to try to get repaid provisional duties they lodged with the Community from February this year until July and pending a settlement of an EEC dumping investigation.

France in Olympics deal

BY DAVID SATTER

MOSCOW, Oct. 18.

THE French electronics firm Thomson CSF has signed a contract estimated at Frs.200m. (£23.3m.) with a Soviet trading organisation to equip a television centre for the 1980 Moscow Olympic games.



Soviet talks with R-R

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

THE Soviet Minister for the Gas Industry, Mr. S. Orudshvili, visited London yesterday for talks with Sir Kenneth Firth, chairman of Rolls-Royce, in London, for talks on possible further Soviet orders for engines for gas-pumping purposes.

Instead of throwing money away on wasted energy, why don't you shove your exports into the drink?

Who cares about those carefully-wooded Japanese export orders, those hard-won contracts against tough-bargaining German competitors? Ditch the lot in the sea. Happily watch your profits float off into the sunset.

are three different numbers. Dial 100 and ask for Freefone 3140 for buildings queries. For production and transport its Freefone 6222 in England and Wales, and Freefone 8305 in Scotland.

air from the air compressors to warm work areas. And with the money saved, you could afford to take on a couple more salesmen to open up new export markets.

Canada moves on steel dumping

OTTAWA, Oct. 18.

THE Canadian Department of National Revenue Customs and Excise has ruled that stainless steel from Japan, West Germany and South Africa is being dumped on the Canadian market.

Advertisement for Energy Survey Scheme. Includes a coupon to request a free booklet and a list of 10 energy-saving questions. A 'SAVE IT' stamp is also present.

HOME NEWS

Imps launches bitter attack on Government

BY STUART ALEXANDER

THE GOVERNMENT is sharply attacked by Imperial Tobacco today for ambivalence over tobacco substitutes. Imperial describes as sheer nonsense the accusations "often in intemperate terms" made "on behalf of a body appointed and financed by the same Government with whom the policy which led us to introduce New Smoking Material was agreed."

Rio Tinto seeks extension of company affairs privilege

FINANCIAL TIMES REPORTER

RIO TINTO-ZINC is seeking a significant change in the law on privilege in company affairs. This has become clear in submissions to the Lords, where RTZ has brought an appeal which would prevent it from having to give evidence in a U.S. court.

Brent Walker to build Oxford Street shopping village

BY JOHN BRENNAN, PROPERTY CORRESPONDENT

BRENT WALKER, the leisure group run by ex-bosser Mr. George Walker, is to build a shopping village in Oxford Street in London's West End. The group has taken a 20-year lease on one of Woolworth's two Oxford Street stores and plans to inject a full-scale shopping centre, complete with paved streets and separately fronted stores, into the building's three retail floors.

Fuel rebate scheme to help 3m. people

BY JOHN LLOYD

MORE THAN 3m. people will be eligible for help with electricity bills this winter. But the scheme will be none for arrears of payment—purchase or servicing. Following yesterday's statement, hire purchase—servicing, officials met voluntary organisations which had been pressing for rebates.

Jubilee boost for jewellers

BY CHRISTOPHER DUNN

THE QUEEN'S Silver Jubilee has brought a boost to jewellers, who have also benefited from accelerating demand for gold, hallmarking figures for the three months to the end of last month show.

Liberals give list for inclusion in the Queen's Speech

BY RUPERT CORNWELL, LOBBY STAFF

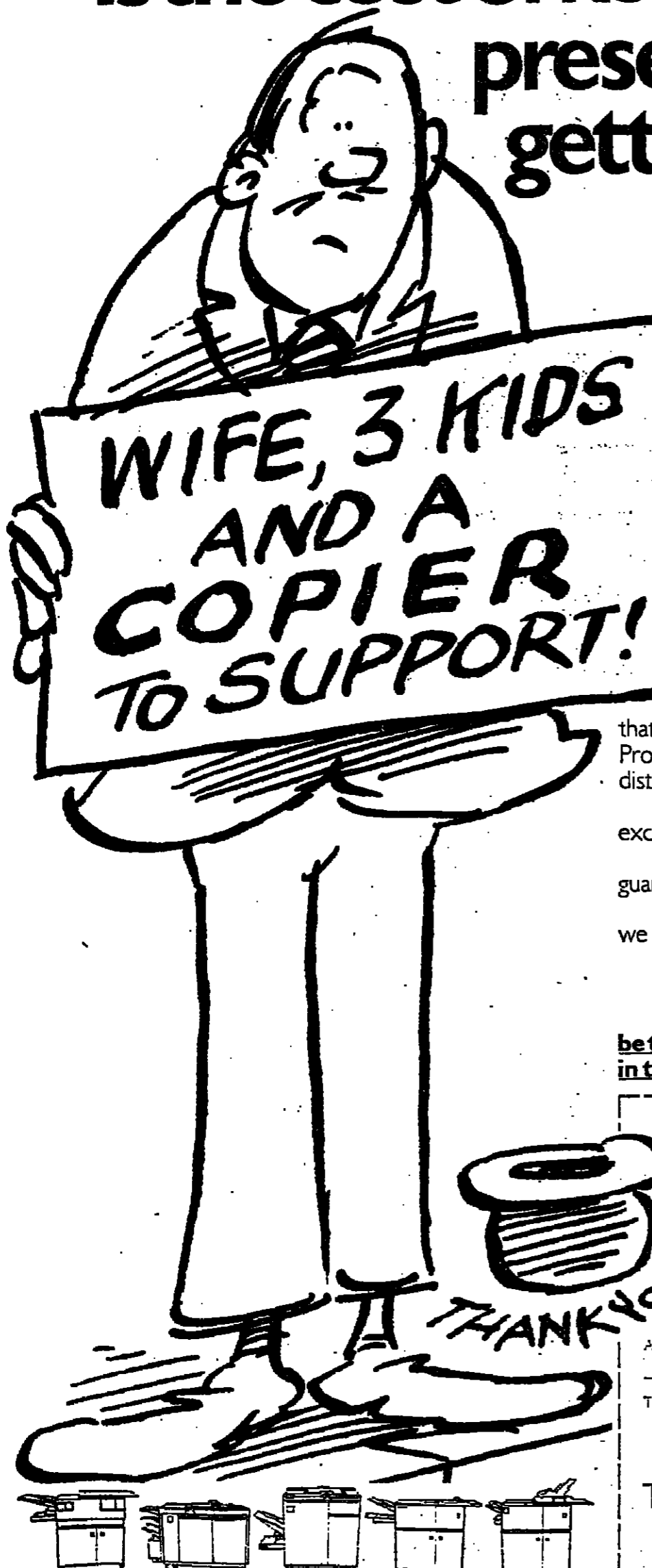
THE LIBERALS yesterday took to the Government a shopping list of items they want included in legislation during the next session of Parliament, to ensure as strong a Liberal imprint as possible on the Queen's Speech at the start of November.

EEC reform move 'a retreat'

BY IVOR OWEN, PARLIAMENTARY STAFF

LORD GEORGE-BROWN, the former Foreign Secretary and deputy leader of the Labour Party, yesterday sharply criticised the Prime Minister's proposals for reforming the EEC. He described them as essentially a retreat to Gaullism.

Is the cost of keeping your present copier getting beyond a joke?



With the way some copying prices have risen, you might be looking on your present copier as a bit of a luxury. In which case, allow us to introduce you to a Canon copier. There are five models at present, ranging from our small, desk-top NP50 right up to the NPA2 which produces copies up to 18" x 24".

Form with fields for Name, Position, Company, Address, Telephone, and a large 'Canon' logo with the slogan 'The next step forward in copiers'.

Craig to work on Rights Convention

By Our Belfast Correspondent

MR WILLIAM CRAIG, leader of Ulster's Vanguard Unionist Party and MP for Belfast East, has been given the task of updating the European Convention of Human Rights.

New plans to keep apart violent rival marchers

BY RHYS DAVID

COMPULSORY NOTIFICATION of marches to the police so that rival marchers could be banned is among the ideas being considered in the review of the working of the Public Order Act instituted by the Government after clashes between the National Front and the Socialist Workers Party.

Benn accused of delay

By Ray Dafter, Energy Correspondent

MR ANTHONY WEDGWOOD BENN, the Energy Secretary, was last night accused of delaying tactics in formulating an energy strategy.

Windscale inspector refutes inquiry critic

BY IAN BREACH

BRITISH NUCLEAR Fuels "has made available as much information as is likely to be provided by any company in any country in the world," the inspector at the Windscale public inquiry, Justice Parker, said yesterday.

U.K. introduces new radiation check

BY DAVID FISHLOCK, SCIENCE EDITOR

BRITAIN HAS introduced a new highly automated system of measuring the amount of radioactivity received by those who work with radiation.

The operator can then examine the heavily irradiated TLD display its dose on a TV screen and take any necessary emergency action.



berals give  
inclusion  
Queen's S

# How did North Sea oil get where it is? Picture an enormous compost heap, working under pressure for 280,000,000 years."

Mobil geophysicist Ian McClelland likes to amuse friends who ask how North Sea oil was formed, with the compost comparison. Actually, his answer isn't too far from the technical truth.

The North Sea covers a collection of geological basins hundreds of millions of years old, in which heat and pressure have turned organic matter into oil and natural gas.

Some organic matter, together with particles of rock, has eroded from the land surrounding the sea, and settled in the basin to form layers of sandy sediment on the bottom. Then too, over aeons, a steady rain of marine animals has fallen to the sea bottom. Their remains have mixed with the sediments.

"Over millions of years", says McClelland, "these sediments have piled up and up. Their weight actually causes the basin itself to sink. And so the process goes on".

Pressure created by this weight, combined with the heat at great depths, can create the conditions under which oil and gas are sometimes formed. It is something like a sophisticated garden compost heap breaking down, miles under the sea bed.

The oil and gas at first are scattered throughout the sediments, but eventually

become concentrated in certain areas. "These are the 'oil fields' everybody talks about", explains geophysicist McClelland. The same pressures and heat which help generate oil and gas also work on the sandy sediments, compressing them into rock. Fluids in the newly-formed rock are partially forced out and percolate upwards through interconnected pores. These fluids are sea water and the newly formed oil and gas.

The oil and gas are lighter than the sea water and, over millions of years, migrate upward through the rocks as long as a path is open to them. A great deal of oil and gas is trapped where solid layers of rock block its upward movement, creating a potential petroleum reservoir.

The great fields of the Middle East, South America, the Southwestern United States, Indonesia, and Alaska were created by the same process. Mobil has been a major participant in all these areas.

"Oilmen knew from seismic readings and from drilling around the edges that the North Sea had covered ancient basins", says Ian McClelland, "so they knew the sedimentary history essential to the formation of gas and oil was there".

Onshore, at the edge of one North Sea basin, the Dutch found large gas deposits in 1959. By the early 1960s, oilmen were ready to tackle the North Sea, and Britain licensed the first drilling in its sector.

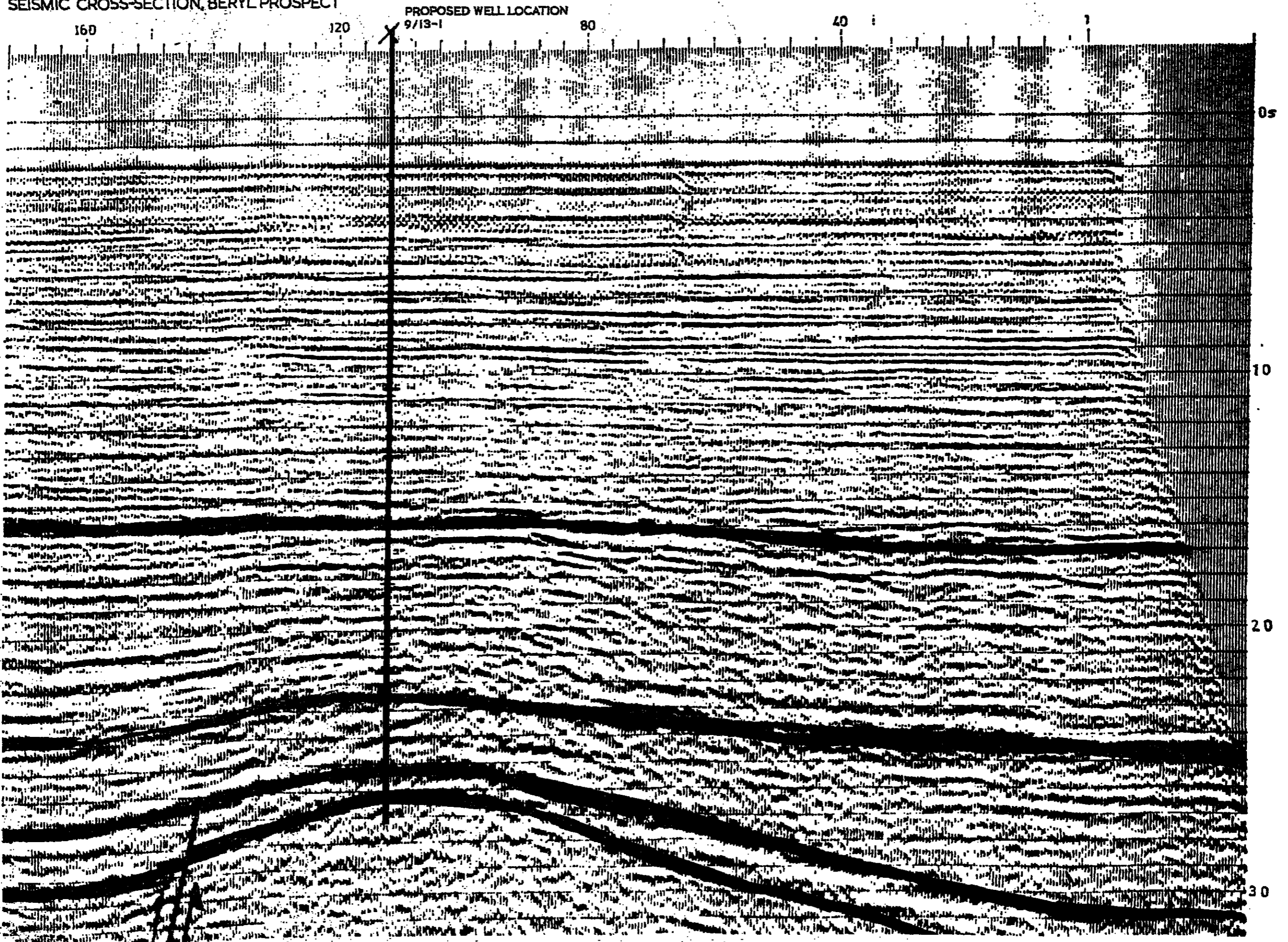
"We felt we knew where gas could be found, based on the experience in the Netherlands", McClelland recalls. "And our ideas worked in the southern North Sea, where large gas fields were found in conditions like those on the Dutch mainland". When gas exploration reached maturity, the search shifted naturally to the North. In 1969, a significant oil well was tested in the Norwegian sector. Soon after, Britain's first oil field was confirmed.

Geophysicist Ian McClelland and his colleagues, we are happy to say, have led Mobil to an important discovery in the North Sea—the Beryl field.

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HOME NEWS

LABOUR NEWS

Record shipping losses in 1976

BY IAN HARGREAVES, SHIPPING CORRESPONDENT

A RECORD amount of merchant shipping was lost last year through accidents. The tonnage condemned, broken up or converted was also a record. Lloyd's Register of Shipping's register of casualties in 1976 shows that 345 ships or 1,158,109 gross tons were either reported foundered, missing, burnt, wrecked, lost or involved in collisions. This compares with 995,261 tons (336 vessels) the previous year. Losses due to wrecking almost doubled during the year and included the largest ship ever lost through casualty, the Olympic Bravery.

Big offices project planned for City

FINANCIAL TIMES REPORTER

PROPOSALS FOR one of the largest property development schemes in London for several years are now being considered by the City Corporation. The special trustees of St. Bartholomew's Hospital, in partnership with a George Wimpey-backed development company, Jaffon Properties, plan an office and residential development near the new London Museum in London Wall that could cost around £30m. But the partial resolution of Bart's accommodation problems is overshadowed by the massive scale of office space in the proposed development.

Extra powers planned for London boroughs

BY LYNTON MCLAIN

LONDON BOROUGH councils may gain extra powers as a result of proposed changes in planning regulations being drawn up by the Greater London Council. The result, the GLC claims, could be to speed the processing of planning decisions in the capital. The aim is to ensure that only items of "strategic importance" are referred to the council. That could mean a two-thirds cut in the number of planning applications handled by its planning and communications committee leaving it to deal with 50 a week compared with the current 150.

Gas prices unrealistic - Shell

A SENIOR Shell executive has criticised governments in Europe and the U.S. for failing to impose realistic gas prices, writes Ray Daffler. Mr. Peter Baxendell, a managing director of the Shell group, said: "I know of no cases in the world today where import gas, whether by pipeline or as liquefied natural gas, is priced at its full and true market value. There was still an 'understandable' reluctance by governments to see gas prices rise to oil equivalent levels, let alone to accord gas any premium over high sulphur fuels which it deserved. The situation will undoubtedly change, however, and as gas assumes its rightful competitive pricing position in an energy-short world, we are going to see a dramatic expansion in the international trade in gas." Mr. Baxendell told the Australian Academy of Technological Sciences, in Canberra.

Bigger war pensions

By Eric Short

WAR PENSIONERS are to receive a 14 per cent increase from November 14. Mr. Alf Morris, Minister for the Disabled, confirmed yesterday. An order authorising the increases is to be published today. Details of these latest rises in war pensions were given in May together with the latest uprating in old-age pension and other social security payments, also to take effect from November 14. The rate of increase is based on the Government's estimate of inflation from last November to next November—13 per cent—plus a further one percentage point.

Notts. 'a leader in crime'

A NOTTINGHAM magistrate, Mr. James Swanwick, told Mr. Justice Bush, who arrived in the city to preside at the crown court, that Nottinghamshire, together with Merseyside and London, had become one of the top three areas for indictable offences. Mr. Swanwick, making his traditional address to a High Court judge on circuit, said indictable offences in the county were now running at 7,000 for every 100,000 of the population.

Projects raise companies output

By Ray Fernan, Scottish Correspondent

PRODUCTIVITY increases of a third and more have been reported by companies which have assigned jobs to give employees more responsibility and to reduce the amount of boring and repetitive work. Three years ago the Government, TUC and Confederation of British Industry set up a tripartite working group to encourage companies to consider ways of organising for more job satisfaction. But, in spite of good results by those who have tried, progress has been slow.

Motorfair on the road

THE FORMER Miss World, Eva Rueber-Staier, added some traditional glamour and razzamatazz to preview day of the new-style motor show in London yesterday.

Motorfair replaces the traditional October show which was staged by the manufacturers and which now moves to the National Exhibition Centre at Birmingham. The new show relies on distributors to show the latest models. This has brought a new cutting edge of sales competition: exhibitors will be keen to fill order books rather than just describe the features of the models on display.

U.K. cars 'cheaper to run'

BY STUART ALEXANDER

THE DIFFERENCE in cost between running home-produced and foreign cars is widening, according to today's issue of Drive magazine, published by the Automobile Association. Using data from 12,000 motorists the AA claims that British cars cost an average of 8.03p a mile to run and foreign cars 6.72p, with West German models producing the worst average at 7.53p a mile. The AA says that the average retail price of a new car is £4,769 but the Volkswagen holds its second-hand value better than any other car.



Motorfair on the road

THE FORMER Miss World, Eva Rueber-Staier, added some traditional glamour and razzamatazz to preview day of the new-style motor show in London yesterday. The former Miss World, who is now a model, was seen in a black and white dress, surrounded by photographers and bright camera flashes. She was seen walking through a display of cars, including a red sports car and a silver sedan. The atmosphere was lively and festive, with many people gathered around the cars to take a closer look.

U.K. cars 'cheaper to run'

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Peace moves in British Oxygen pay dispute

BY LYNTON MCLAIN, INDUSTRIAL STAFF

THE ADVISORY Conciliation and Arbitration Service yesterday called in both sides of the British Oxygen dispute as the effects of the unofficial strike by 6,000 manual workers at the company's 56 depots deepened. Industry's hopes of alternative gas supplies faded when Air Products' major alternative supplier said it could not deliver to British Oxygen customers without gas as a result of the strike. This was because Air Products' employees would not co-operate. In making deliveries entirely necessitated by the industrial dispute.

Journalists' executive turns down mediator's report

BY DAVID CHURCHILL, LABOUR STAFF

THE MEDIATOR'S report on the four-month-old strike in support of a closed shop by journalists at North of England newspapers was rejected yesterday by the National Union of Journalists national executive. In addition the executive decided to initiate a series of "guerrilla strikes" at other newspapers in the Westminster Press group. It will be seeking support for this action from other printing industry unions at tomorrow's meeting of the TUC printing industries committee.

Kent miners challenge ballot

BY NICK GARNETT, LABOUR STAFF

THE EXECUTIVE of the National Union of Mineworkers had no power to decide to hold a pithead ballot on a productivity scheme, it was claimed in the High Court yesterday. Mr. Alexander Irvine, Counsel for Kent area miners, who are opposing an injunction preventing the union from holding the ballot, told the court that the executive was acting in defiance of a national conference decision to seek pay rises which would hit some miners' wages up to 25 a week. The conference decision was an instruction to negotiate those wage rises.

Scotland faces beer shortages

SCOTLAND'S hotels and public houses are facing severe shortages of most beers and lagers because of industrial disputes at the three main breweries. The major dispute, a seven-day strike by 500 production workers which has halted production from Tennent Caledonian's Wellpark brewery in Glasgow, today spread to the company's Heriot brewery in Edinburgh. Pickets from Glasgow stopped all deliveries to pumps from East Scotland. The company faces the closure of its 600 wholly owned outlets in Scotland.

Ulster management fail to re-occupy glassworks

BY OUR BELFAST CORRESPONDENT

AN ATTEMPT to end the lock-out of senior management at a down town Crystal glass-ware factory in Ulster failed yesterday despite process. The Department of Commerce, which recently gave the company a financial injection, said it understood the pay-off were not connected with the long-term objective of putting the company back on its feet but that they arose from immediate operational difficulties. Inside the factory yesterday canteen facilities were still running and the workers raised money among themselves to buy petrol for the company minibus to bring workers from outlying districts.

Appeal over company inquiry

NORWEST HOLST was granted leave yesterday to appeal against the striking out of its High Court action to stop a Department of Trade inquiry into its affairs. The company contends that a decision by the Secretary for Inland Revenue to appoint inspectors was invalid because he had refused to state his reasons for ordering the inquiry. In July, Mr. Justice Foster said he could see nothing in the Companies' Acts requiring the Trade Secretary to state his reasons. The inspectors' inquiry, he said, would not be against the company, but for its benefit and that of its shareholders.

Garage staff ignore guidelines

PRODUCTION workers at Allied Breweries' Ind Coope breweries in Edinburgh and Alloa are working to rule over their annual pay claim, again forcing a reduction in deliveries of keg beer and lager. Both Scottish and Newcastle and Allied Breweries have made pay offers within the Government's guidelines and have included proposals for extra rises under self-financing productivity deals. Only Usher-Vaux's Lorimer brewery in Edinburgh is working normally. The combination of these three separate disputes means that a main brand of beer and lager will shortly begin to run out in hotels and public houses throughout Scotland.

ACAS to hold bank talks

FOLLOWING THE National Union of Bank Employees' notice of withdrawal from local and national negotiating machinery, the Advisory Conciliation and Arbitration Service said yesterday that it would hold talks with individual banks and the bank employers' federation. At a preliminary meeting with the banks and the union yesterday, Mr. Jim Mortimer, the ACAS chairman, suggested the possibility of staff opinion surveys on the NUME move. The union has claimed direct negotiating rights, outside the existing negotiating machinery, for staff at National Westminster Barclays and Lloyds.

More engineers rap decision

ANOTHER major body representing professional engineers yesterday hit out at the Advisory Conciliation and Arbitration Service for refusing to grant recognition for the U.K. Association of Professional Engineers at Bedford. ACAS refused to recommend the association's application for recognition despite a substantial majority of engineers involved wanting UKAPE recognition. This was attacked yesterday by the Institution of Electrical Engineers as "an unacceptable infringement of the individual's right of choice."

Dockers accept peace plan

DOCKERS VOTED yesterday to accept a peace plan in a five-week-old dispute which has disrupted Bristol's Avonmouth docks.

If the engineering of the Mercedes 200 impresses you,  
 Or the luxury of the Peugeot 604 appeals to you;  
 If the safe design of the Volvo 244 reassures you,  
 Or the styling of the Audi 100 attracts you;  
 If the smooth performance of the BMW 520 excites you,  
 ...and you want an executive saloon with an extremely  
 high level of equipment, Datsun presents...



# The New Laurel Six!

Because the New Laurel Six gives you meticulous Datsun engineering, with the luxury of "soft-touch" cloth upholstery and thick carpets; the very latest safety techniques and features for your protection; crisp up to the minute styling; the performance of a smooth and powerful 2-litre, 6 cylinder engine; and a full complement of high luxury equipment from fibre optic head and tail lamp monitors to a quartz digital clock!

Datsun engineers are precise people. What they design on paper they reproduce exactly in the factory, not accepting any compromise for the sake of mass-production.

And with the New Laurel Six they set out to offer the best executive car qualities in one impressive 2 litre luxury saloon. Now you can see how well they have succeeded.

High quality engineering is immediately apparent when you see the superb finish of the New Laurel Six and hear the quiet "clunk" as the doors close.

The luxurious interior is spacious and supremely comfortable. Deeply upholstered seats are scientifically designed to keep you in comfort, and the appointments are worthy of a car many times the price. There are wall-to-wall deep pile carpets, thickly padded head restraints for the front passengers and corner head rests for those in the rear seat; a push-button radio and auto-reverse stereo cassette

player to entertain you while you travel; a highly accurate quartz digital clock to keep you on time for business appointments; an economy indicator to help you drive at optimum engine efficiency; tilt-adjustable steering for your greater comfort; an array of warning lights, including one that will tell you if a passenger has not closed a door properly; a vanity mirror in the illuminated glove box; a special compartment for your favourite cassettes; superb alloy road wheels; and a host of other special features which your Datsun Dealer will show you.

The 2-litre overhead camshaft engine gives the New Laurel Six a powerful advantage over most of its competitors because it has the smoothness of 6 cylinders instead of the more conventional 4 cylinder unit.

The performance is as impressive as the rest of the car with a maximum of over 100 m.p.h. and economy in everyday driving of around 26/27 miles to each gallon of low-grade petrol.

Yet the New Laurel Six will not cost you anything like the £6695 of the Peugeot 604, or even £5729 of the BMW.

**The New Laurel Six is priced at just £4095, which represents remarkable value for money for such an impressive luxury car.**

**The New Laurel Six executive saloon is on display at your Datsun dealer now. We think you'll find more reasons to want it than any other car in its class.**

Prices quoted include Special Car Tax, VAT and inertia reel seat belts.

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# McLEOD RUSSEL

## "Excellent Results"

reports Sir John Brown, the Chairman

- \* Profit before taxation for the year to 31st March 1977 amounted to £5.78 million and the profit attributable to shareholders at £1,715,000 exceeds the estimate made at the interim stage by £205,000.
- \* H.M. Treasury have stated that the Company falls within the intended scope of the Treasury announcement of 20th October, 1975 and is accordingly not subject to current regulations on dividend controls. This has enabled the Directors to recommend dividends on the Preferred Ordinary and Ordinary shares of 10p (net) per share.
- \* By the amalgamation of our remaining subsidiaries operating in India into McLeod Russel (India) Limited it is hoped to complete by the end of 1977 the reorganisation of our Indian businesses and the introduction of Indian capital therein.
- \* The Group's prosperity still depends to a large degree on the outcome of its tea activities. Crops produced during the year by our estates and those of Tata-Finlay Limited showed an increase of 4½% to 55.32 million kgs. The most significant factor during the year and subsequently has been the very substantial increase in prices but it should be remembered that tea is still historically cheap in comparison to other soft commodities and it is essential that adequate profits should continue to be earned to permit necessary capital investment in development, buildings, plant and machinery.
- \* Increased shipments of tea for sale in London have resulted in satisfactory utilisation of Buchanan's Warehouses and prospects are encouraging. In the packaging division Branchley & Co. showed improvement but Morrell Grave Packaging produced a loss and plans for reorganisation are currently in hand.
- \* The recent upturn in share prices has benefited the company and we are well placed to take advantage of the improved investment climate. We have recently acquired 29.9% of Malayalam Plantations Limited which has extensive tea and rubber interests in Southern India as well as investments in this country.
- \* Crops from India for the period to 31st August 1977 show substantial increases and early crops have been sold at satisfactory prices. Provided future prices are not subject to violent fluctuation I am confident that results from our tea operations will be maintained and possibly improved. The profitable outcome of a property trading transaction will be reflected in the current year's accounts.

### COMPARATIVE RESULTS

	1977	1976
Group turnover	£16,937	£11,604
Profit before taxation	5,782	2,401
Profit attributable to shareholders	1,715	771
Proposed Preferred Ordinary and Ordinary Dividends—10p net	403	142
Profit retained	1,221	625
Earnings per Preferred Ordinary and Ordinary share	40.33p	34.99p

Copies of the Report and Accounts are available from the Secretary, McLeod Russel & Co., Limited, Victoria House, Vernon Place, London WC1B 4DH.

# A Bank for the great unbanked

By JOHN LLOYD

BEHIND a variety of closed doors, discussions on the formation of a State Bank are being conducted. The idea at the back of everyone's mind is that the bank will compete with the "big four" clearing banks, offering roughly similar services.

But the desired result is all these discussions have in common, and even that is defined in a variety of different ways. For the conception of a State Bank brings together in the Labour movement, sound commercial sense and socialist idealism.

The idealistic dimension of the concept of the bank has a century's history behind it, and has depended, paradoxically, on the general success of the English clearing banks in establishing a rapid and convenient transfer payment service. Two effects, it is argued, flowed from this success. First, it was a success only for the middle classes; the working classes had no bank accounts and were assumed not to be worthy of the banks' attention.

Secondly, the popularity of the clearing banks with their individual customers was achieved at a certain cost. As the historian of the National Giro puts it: "The excellence of the money transmission service provided by British banks for their customers was of course a direct result of their decision to act as banks of deposit, rather than as industrial bankers, as was the case with Continental banks, especially those in Austria, Germany and France."

### Concentration

"The higher liquidity of British banks meant less direct involvement in industry and much more concentration on meeting the short-term needs of their customers, including the provision of a swift and efficient payment system. It has long been insufficiently recognised that the inevitable counterpart of the long history of complaints by academics and industrialists that British banks failed to do all that they should to assist the development of British industry was this counter-emphasis on an efficient transfer-payment system."

Thus the demand for a transfer payment system outside the clearing banks tended to be identified with the working class, with the trade unions, which represented them industrially, and with the political Left, which sought to represent them politically. As an added reason, the trade unions, acquiring membership rapidly at the end of the 19th century, needed cash transfer facilities on a big scale. Disliking the capitalist clearing banks, they put pressure from the 1890s onwards on the Post Office to provide a Giro.

Applly enough, the political choice now facing the Labour Party, between partial intervention and complete control, had been posed directly by John Stuart Mill a century before. In one section of his "Principles of Political Economy" (1862), Mill grapples with the role of state enterprises in a *laissez-faire* economy. He distinguishes "authoritative interference"—the monopolisation of an entire industrial, financial or service sector by the State—from a more benign, non-authoritative form.

As an instance of the latter, he wrote: "When leaving individuals free to use their own means of pursuing any object of general interest, the government established an agency of its own for a like purpose. There might be a national bank, without any monopoly against private banks."

Mr. Callaghan, who made no secret that he thought nationalisation of the leading financial institutions "an electoral albatross," has taken Mill to heart. He therefore lost no time in asking the Treasury to convene a study group charged with examining the practicalities of establishing a State Bank. The group's examination is complete, and the report is with the Prime Minister.

While the report remains confidential, it is not thought to be wholly enthusiastic. First, one of the biggest institutions the study group consulted, the National Savings Bank, is not at all keen on the merger. In the projected scheme, it would supply the deposit side of the new bank, with Giro providing the current account side. But the NSB thinks it does very well as it is, offering 5 per cent. interest on deposit account and 9 per cent. on investment account.

### Deposit facilities

But Giro, under its forceful second director, Mr. Alfred Singer, constantly nagged the Government and Post Office to give it the NSB. Mr. Singer resigned some months ago to manage the massive Post Office pension fund. The attitude of his successor at Giro, Mr. Sam Wainwright, is proving less easy to interpret. While not repudiating the Singer attitude, he has quietly introduced limited deposit facilities for Giro.

The Treasury group must also have had regard to the further purpose of the State Bank as argued within the Labour Party. That is to act as a channel of funds into industrial investment. Evidence to the Wilson Committee—its own product of the Prime Minister's attempts to defuse criticism of the financial houses—seems to suggest that investment starvation is not a major cause of industrial sluggishness. So is there any need for a bank which is committed to investing in industry? And would such investment show sufficient returns to make the bank competitive against the "big four?" The Treasury is believed to be sceptical.

### Autonomous

However, those in favour of "authoritative interference" have not wasted their time during the last year. The Labour Party's banking and finance sub-committee, an offshoot of the NEC's home policy committee and chaired by Mr. Eric Heffer, a leading Left-wing MP, has been taking soundings among the unions concerned with banking and finance. It has discovered a considerable lack of enthusiasm for nationalisation of the banks, but a good deal of support for the State Bank. The indications are that the State Bank will be heartily endorsed by the committee, while State banks will not.

There is substantial disagreement among the unions about the form the State Bank should take. The Union of Post Office Workers wants it to remain in the Post Office. The Civil and Public Servants Association and the Post Office Engineering Union want it to be an autonomous corporation, though continuing to use Post Office counters. The Society of Civil and Public Servants is deeply split over the desirability of a State Bank, its members in the NSB arguing strongly against it while its members in Giro argue at least as strongly for it.

There is also some dispute about just how many of the existing services run by the Government the new bank should take over. The basic model is a merger of Giro and NSB. But some unions also argue for the inclusion of the Postmaster General's Office, and some for the National Enterprise Board as well.

# APOLLO

Edited by Denys Sutton

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# GEOBANKING

## The Manufacturers Hanover Way of Worldwide Banking



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A nuclear plant for the world's largest power company.  
A shipment of grain for Eastern Europe.

**Geobanking.**  
It is money moving and working around the world.  
It is the Manufacturers Hanover way of worldwide banking.  
Unlike most major international banks, Manufacturers Hanover does not enter a region or a country with a rigid operational philosophy. Instead, it adopts a way of banking that works best for a particular place at a particular time.



**Geobanking.**  
In some countries, it dictates the opening of full-service banking offices, such as the Manufacturers Hanover branch in Frankfurt.  
In others, it calls for the setting up of a specialized subsidiary, such as Manufacturers Hanover Asia, Ltd., the Hong Kong merchant bank.  
And elsewhere, it may mean reliance on representative offices working with indigenous banking systems to form one of the most extensive correspondent networks of any U.S. bank.

**Geobanking.**  
It is wholly responsive, since it fine-tunes banking to national and regional needs. It is flexible, admitting swift adjustment to changes in prevailing conditions.  
And Geobanking is synergistic, enabling Manufacturers Hanover to marshal strengths from the worldwide resources of a \$30-billion organization.

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# "Is it not time that we were all given the full facts in a clear and dispassionate way instead of being flooded with emotive propaganda..?"

Lord Winstanley, in an article  
on tobacco substitutes  
in The Times, October 12th, 1977.

Since tobacco substitutes were launched in Britain, at the beginning of July, there has been much news and comment on the subject.

Regrettably, much of this has been ill-informed; even more regrettably, much has been exaggerated and misleading.

We, the Board of Imperial Tobacco Limited, feel that the moment has come for our position to be made clear in public.

## The History of NSM

By 1972 it had been established, after extensive research, that a product could be manufactured and used as a tobacco substitute, in ways which showed every promise of reducing risks that had been associated, by medical authorities, with the smoking of cigarettes.

Imperial Tobacco, following its policy of consultation with scientific and medical authorities, and of co-operation with Government, entered into discussion with the Government of the day on the future of this product.

The Government, without in any way compromising its long-term policy of discouraging smoking, agreed that this was an approach that should be pursued; and an independent body comprised of distinguished medical scientists (the Hunter Committee) was set up to enable judgements to be made on the potential value and safety of the new product.

Imperial Tobacco, in partnership with ICI, made a massive investment in research and development facilities; the product was tested and a new factory was built by Imperial Tobacco.

The Hunter Committee came to the conclusion that there would be no objection to the manufacture and sale of cigarettes containing NSM, and (having been supplied with formulations and

other details) cleared each proposed Imperial Tobacco brand individually.

## Criticism of NSM

The introduction of cigarettes containing NSM has been followed by accusations, often in intemperate terms, of misleading the public—including accusations made on behalf of a body appointed and financed by the same Government with whom the policy which led us to introduce NSM was agreed.

These accusations are sheer nonsense.

The advertising for NSM was cleared in advance of publication by the Secretariat of the Hunter Committee at the Department of Health and Social Security. It was also cleared by the Advertising Standards Authority, as is all our brand advertising.

## Government Policy

It has been accepted by successive Governments that a reduction of risks which the authorities associate with cigarette smoking should be achieved by making every effort to modify cigarettes in ways suggested by the responsible authorities.

On January 16th 1976 in the House of Commons, Dr. David Owen, then Minister of State (Health), reaffirmed the Government's position, when he said:

*"Millions of adults are going to go on smoking for a very long time to come and the Government must in all its proposals and activities recognize this as a fact. It is on the reduction of the hazards to health among smokers that the industry and the Government can and should co-operate..."*

*"I have always rejected a strategy which fails to*

*understand the problems and difficulties of the confirmed smoker and that is only composed of restrictions, warnings and education."*

He continued: *"The co-operation of the industry in any such strategy is important, for if they do not continue to put a heavy investment into experiments and research for safer cigarettes, we will not make rapid progress."*

The Company has at every stage acted in accordance with the spirit of this policy, and has co-operated to the full with the relevant Government and independent bodies.

## Conclusion

Imperial Tobacco can play a part in the Government's policy, has played it, and is determined to play it in the future.

Imperial Tobacco believes that it has made a positive contribution to the Government's policy, thereby providing a basis for further progress through additional research and development.

It is, to say the least, disappointing that the Government has not stood by its own policy—a policy which actively encouraged Imperial Tobacco's investment of over £15 million in research, development and production related to NSM.

**If unbalanced criticism of tobacco substitute is encouraged—even tacitly—by the Government, progress towards their declared objective of "safer cigarettes" can only be delayed—or even halted altogether.**

Signed:

**R.A. Garrett (Chairman)**

On behalf of the Board of Directors  
of Imperial Tobacco Limited

# Imperial Tobacco Limited

Member of Imperial Group Limited

# Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

## MINING

### Laser helps to keep tunnels straight

LIGHTER and more compact than competing equipment, an alignment laser for tunnelling applications has been granted a class "A" flameproof certificate. It weighs 40 lbs including its mounting and can be dismantled into two sections for ease of carrying. Overall dimensions are 22 1/2 x 3 1/2 x 3 1/2 inches.

The laser tube is made of metal rather than glass and while this helps to dissipate heat it also reduces the effects of handling shocks.

Output is controlled at 125 microwatts per square cm and is in conformity with the requirements of the NCB and BS 4803 governing safe viewing.

Optical performance of the unit is such that it can give a symmetrical beam profile no greater than 50 mm in diameter at 500 metres. The collimated telescope has lenses specially designed for use with lasers.

Cradle design will cope with mounting on roof supports, walls or floor and the positioning of

the cradle itself is not critical since both vertical and horizontal controls can accommodate fine steering adjustments within plus or minus 10 degrees. Once the adjustments are complete, both axes are lockable and both cradle and laser unit are waterproof and dustproof.

Power supply required by the laser is 12 volts dc, 115 ac or 240 ac, depending on customer requirements. A twin-core, armoured flexible cable feeds the power to the enclosure through a standard flameproof gland.

The equipment has been developed by Applied Physics working closely in conjunction with potential users and it is something like 20 per cent lighter than competing units. It has similar characteristics but is even lighter in weight at only 18 lbs.

Further information on this new tunnelling laser from Survey and General Instrument Company, Firecreek Way, Edenbridge, Kent, Edenbridge (0732 71) 4111.

## PROCESSING

### Pure water anywhere

TRAILER MOUNTED water purification equipment is capable of treating 6.5m cubic metres (1,450 gallons) of water per hour to World Health Organisation standard from differing raw waters, including turbid supplies having a high concentration of dissolved solids.

Proposed for major remote building sites or disaster areas, each mobile FSD equipment is completely self-contained with its own diesel generating set. Mounted on a four-wheeled all-steel chassis the installation includes, in order of treatment, a Stellar 6D filtration unit which provides clean, clear water from the raw supply. The filtered water is chemically dosed to ensure that there is no danger of reverse osmosis membrane fouling. Desalination by reverse osmosis followed by chlorination through a Chlorox electrolytic steriliser, completes the treatment to produce potable water, complying with WHO.

The filtration/sterilisation section may be used separately if it is decided, after simple chemical tests, that dissolved solids reduction is unnecessary. When the raw water is exceptionally turbid or contaminated with iron, additional clarification or iron removal equipment can be provided.

It is possible that in a military situation water supplies could be affected by airborne contaminants and consideration is being given to the design of mobile equipment to overcome this.

Portals Water Treatment, 632 London Road, Isleworth, Middx. 01-560 5199.

## DATA PROCESSING

### Big machine battle lines drawn

WITH THE announcement that Mr. Peter V. Williams is to be the managing director of Amdahl (U.K.) and general manager of northern European operations, the Amdahl campaign to displace large IBM computers in Britain is expected to take shape very quickly.

Mr. Williams has 17 years experience of selling medium to large IBM systems and was undoubtedly the perfect choice for Gene Amdahl who was in Britain last week to talk to Diebold Research Program—Europe participants about the future of large machines. Not unnaturally, Amdahl—whose 470V/6 after a 30 per cent price cut in March is competing strongly with IBM's 165 and 168 as well as the newer 3033—does not think big machines are going to be exter-

minated by the minis or the micros.

Speaking to the Financial Times he pointed out that IBM machine users of 360 and 370 equipment had invested a staggering \$300m. in applications software to run practically every business, commercial and scientific routine anyone ever dreamt of.

This was the prime target of his V/6 and of the forthcoming V/5 and V/7, the latter far more powerful than the 3033, to make more effective use of existing software.

Having spent all this money and being committed to heavy annual expenditure on software maintenance and updating, big machine users were unlikely to throw out their central computers and replace them by net-works. For most companies this

## TEXTILES

### Looms face a revival

SINCE the Second World War the British loom building trade has been passing through a steady decline to a point at which it has almost ceased to exist, except for the builders of special machines. Now there are signs of a recovery with at least two loom builders introducing shuttleless looms that can compete in world markets.

One of these is British Northrop Sales, (Blackburn, Lancs. Tel: 0254 56255), which earlier developed a new type of shuttle loom, the Sensomatic, which is now selling moderately in world markets. The company has used this as the basis for a completely new rigid rapier loom which will be marketed as the Sensomatic Rapier Loom.

Instead of a shuttle the new machine uses two rigid rapiers manufactured from pencil-thin carbon fibre reinforced material. The features of the rapier, compared with those used in competitive looms is their very light weight and extremely high rigidity.

The rapiers enter the shed of the loom from each side and "kiss" in the centre, transferring the weft yarn from the givers to the takers which, as they withdraw, pull the weft across the full width of the cloth.

By agreement between the Financial Times and the BBC, information from The Technical Page is available for use by the Corporation's External Services as source material for its overseas broadcasts.

### NCR for the new user

SEEKING TO woo the beginner with one of the easiest to use small computers so far brought out, NCR has come right down range with its 8130 and 8150 machines both of which use business Cobol as the working language, but require no knowledge of programming or software for the average user to get a great deal of work out of them.

This is because the machines are designed to provide what might be called a teaching mode, the operator entering data through a keyboard and a display unit providing prompts where additional information is required to complete a given operation.

One interesting aspect of the

machine's design is that it can be provided with standby power that will keep the memory alive for 48 hours should there be a major power failure. The larger of the two machines has, as standard, a 5 Megabyte fixed disc unit.

There are many options on both machines to fit a great diversity of company requirements and any routines developed for either machine can be run on larger machines in the 8000 series.

NCR has indicated that it is preparing to launch a very large machine at the top of the series (the 8500) with as much as 8 Megabytes of memory, if required.

NCR on 01-723 7070.

### Displays and prints

LATEST terminal from Data Dynamics combines keyboard, printer and a video display at a one-off price around £1,800.

Known as the ZIP-KDP, it can receive at 110 or 300 baud (switch selectable) if the data is to be directly printed, or up to 9600 baud for display on the screen can be printed at about 40 characters/sec. on average. The result is efficient use of line time and consequent cost reduction.

When transmitting, the terminal can be operated in line or page mode and data on the VDU can be sent at up to 9600 baud a line at a time, a page at a time, or as far as the cursor.

Format on the VDU is 24 lines of 80 characters each, with a 7 x 5 dot matrix of upper case characters. Customary facilities such as protected fields and blinking fields are provided, and protected data is in reverse video.

The printer has a seven-needle head giving the full upper case ASCII set through an "ink globule" ribbon yielding clear, black print. There is a choice of two keyboards: "Query" and the Continental "Agency". More from Springfield Road, Hayes, Middx. (01-848 9781).

### COMMUNICATION Teleprinter has a brain

ADVANCED electronic circuit design is giving new capabilities to many run-of-the-mill pieces of equipment in the communications industry. The latest unit to be given its own tiny brain is a teleprinter designed to operate over radio circuits.

The Philips STB 750 replaces the STB 75, which when it was launched in 1969, broke new ground in the area of error correction and detection.

With the new equipment however, the selective call number—of special importance in unattended operation—can be entered by teleprinter; in the previous version this had to be done by means of thumbwheel switches.

Frequency drift up to 56Hz is automatically corrected, to meet the requirement of unattended operation for long periods. A frequency drift meter is incorporated.

The buffer store has been enlarged from 25 to 40 characters to facilitate operation under difficult conditions, when repeats are frequently requested. For use at coastal stations or in fixed point-to-point links, the buffer store can be enlarged to 12,800 characters with the aid of a simple plug-in card.

Philips Telecommunicatie Industrie, POB 32, Hiversum, Holland.

### METALWORKING Keeping the slab sizes correct

ALL-HYDRAULIC control requirements for the new British Steel Corporation stainless steel slab casting facility at BSC Stainless Tinsley Park, Sheffield, are being provided by Abex Denison.

The main contract was placed by Distington Engineering Division of BSC for the supply of the hydraulic units and installation of the pipework for the control of the single strand continuous slab casting machine.

The Tinsley Park unit will be the second stainless steel continuous slab caster in this country. Abex Denison equipment was specified by BSC because the company's control valves feature a direct-seating cartridge system, which restricts valve leakage to a minimum.

This minimum leakage across the valve seat is important when handling continuous slab casting, especially during the early stages of cooling when a slab is in effect a large amount of molten metal restrained by only a thin skin of chilled metal.

The correct amount of hydraulic pressure must be maintained on the slab handling equipment to provide positive control without the risk of burst out. In the event of electrical failure on the casting machine, this precise hydraulic pressure may need to be held for up to one hour.

This is the latest single continuous casting control system developed by Abex Denison which operates from Victoria Gardens, Burgess Hill RH15 9ND, Sussex.

### INSTRUMENTS Monitors temperature

THE miniature four-channel tape recorder made by Oxford Electronic Instruments has been further developed for recording temperatures in food container vehicles and other temperature sensitive environments.

Unless for example is using the units to ensure that products are kept at the right temperature during storage and distribution.

Up to four channels with thermistor probes can be accommodated and the recorder, called Microlog, will operate continuously for up to 24 hours or in a sampling mode for periods in excess of six months. It is housed in a waterproof container measuring only 280 x 180 x 90 mm which also contains a control card with crystal oscillator for sample timing and a choice of dry or rechargeable batteries.

The stand-by current consumption is only 100 microamps, allowing long unattended operation.

A separate high-speed replay machine is available enabling the recorded data to be written on to a chart recorder or into a computer for analysis. More on 0235 21135.

# How to identify the leading U.S. government securities firm

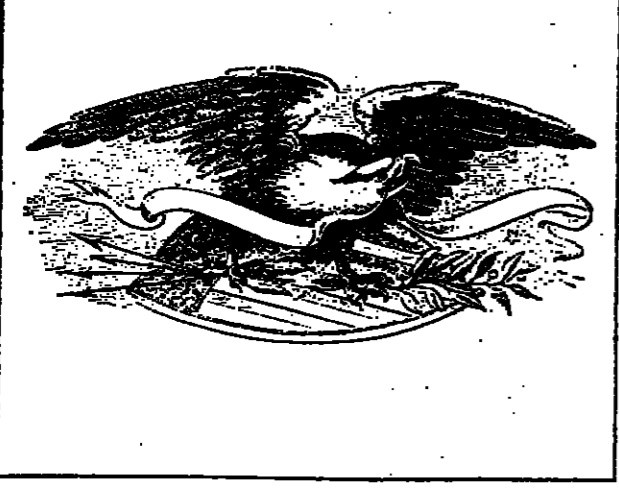
**Test #1**  
**Does the firm have enough stature to work with the Fed, the Treasury, and U.S. Government agencies?**

Merrill Lynch Government Securities has played a leading role in developing and supporting many agency securities. Examples include GNMA Pass-Throughs, FNMA's, Federal Home Loan Bank bonds, and securities of The Farm Credit Banks.



**Test #4**  
**Does it make firm bids in good markets and bad?**

In a month that included a good market (November, 1976), Merrill Lynch Government Securities had an average daily volume of \$2 billion. Even when things got tough (January, 1977), the figure was still impressive—\$1.8 billion.



**Test #3**  
**Does the firm offer direct access to primary money markets on a worldwide basis?**

Merrill Lynch Government Securities deals with thousands of companies and institutions throughout the world. Not just those in or near major financial centers.

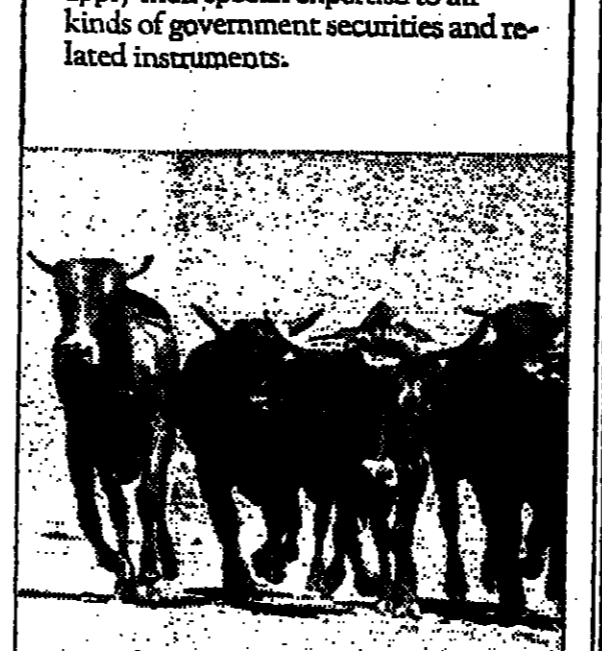
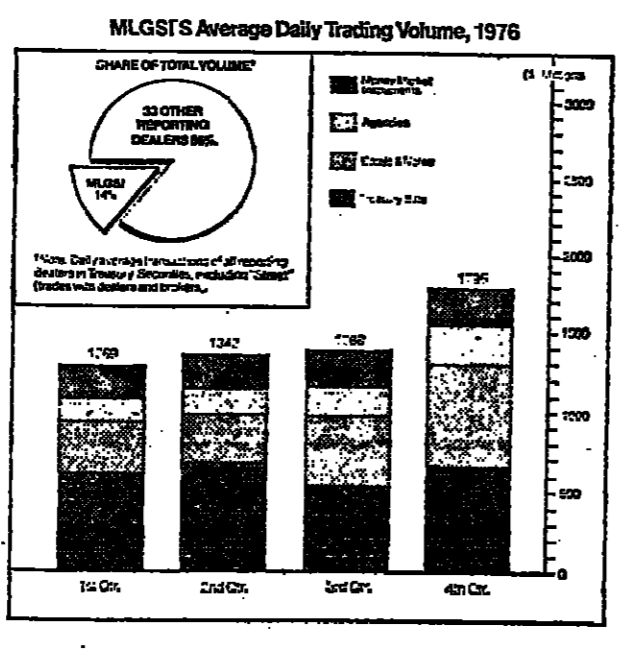
**Test #5**  
**Does the firm have a distribution system that reaches out to Main Street, as well as Wall Street?**

Merrill Lynch Government Securities has trained 222 Account Executives employed by various companies in the Merrill Lynch group.

Located in 94 offices throughout the world, these Account Executives apply their special expertise to all kinds of government securities and related instruments.

**Test #2**  
**Is the firm competitive enough to have an average trading volume of over \$1.4 billion a day?**

In 1976 Merrill Lynch Government Securities averaged over \$1.4 billion a day in trading. On 30 days, trading topped the \$2 billion mark. On 3 days, it soared beyond \$3 billion.



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Initially this can be anything up to a maximum of 3m, although 3.5m looms will probably be built in a later stage of the development.

The new loom can weave up to eight different coloured weft yarns and may be equipped with cam, tappet, dobby or Jacquard patterning motions. By means of four change wheels the loom is able to weave between 3.6 and 89 picks per cm. Cloths made on the new loom may be woven with either a tucked or fringed selvage on both sides, and the machine will accommodate fabric lengths up to a maximum of 60 cm diameter on the clothroll take-up.

The first commercial batch of the new looms should be ready by the end of the year, where they will be supplied to various British mills for full evaluation.

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To R. P. Monday, M.B.E., M.C., General Manager, Cwmbran Development Corporation, Canal House, Twp Centre, Cwmbran, Gwent, N. Wales. Telephone Cwmbran 6777.

Name: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_

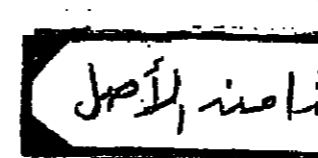
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# FINANCIAL TIMES SURVEY

Wednesday October 19 1977

scope  
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## Industrial Refrigeration and Air Conditioning

With energy conservation a major economic and social consideration, and a growing awareness of the benefits of better working conditions, there is considerable scope for improvement in existing refrigeration and air conditioning technology.

Ted Schoeters

Man are fragile creatures, adapted to a small proportion of total land area of the planet. The physiological fact that a degree variation in blood temperature is all they can stand. But surface temperatures on earth fluctuate more than 150 degrees C. Men have had to learn to live with this. In the process, vast amounts of energy have been squandered in order to make living and working conditions bearable, but the world has now been compelled by soaring energy costs to seek some means of making heat control more expensive.

Even now, poorly insulated and ventilated homes are being put up by local authorities and only a few tentative moves are being made by certain councils to experiment with advanced heat control equipment, including new designs of heat pumps. In all fairness, it must be said here that the Property Services Agency of the Department of the Environment has given an excellent lead on the control front by having an air conditioning system designed that will do away with one of the worst aspects of a highly insulated dwelling—its tendency to accumulate condensation in kitchens and bathrooms.

A hotel in Israel runs all its water supply system off the heat from air conditioning. The extra equipment needed to capture this heat and use it for water for baths and basins, is a minimal capital cost for any new design of a large building.

The U.S. Material Distributors Corporation of Massachusetts says that 100 square feet of solar control film on the windows of a building can have a cooling effect equal to one of air conditioning equipment. The film cuts off a large portion of the infra-red radiation that would otherwise penetrate into the room, or the ice, during the summer and heat losses towards the exterior during the winter. The film is made by coating a very thin layer of titanium in a plastics sandwich by the same process as used to put a translucent coating of gold on the space suits of the U.S. spacecraft. The aluminium lets in 90 per cent of the visible light

but absorbs or reflects the infra-red. Relatively few homes provide for heat exchange between outgoing stale air and incoming fresh, which is one feature of the PDA design and of a proprietary warm air heating/air conditioning package just put on the market. And very frequently a heating appliance is found in a kitchen causing a refrigerator and a freezer to work overtime in winter. Office buildings are going better including the more modern ones which have full air conditioning. Many have been designed with a sublime disregard for solar heat loading through bright sunlight even at external temperatures well below freezing can cause temperature gradients of tens of degrees between the sunlit side and the dark side of a building. In the period from 1960 to



York/Borg-Warner packaged reciprocating chilling machines in use in the heat recovery system which provides air conditioning at the Bisham Abbey National Sports Centre at Marlow, Bucks.

1970 energy needs of new buildings in the New York area used as offices more than doubled. So far as the latter factor is concerned, it is estimated by the American Institute of Architects that if that country were to accept a priority programme for "energy efficient building" it would by 1990 be saving the equivalent of better than 12.5m barrels of petroleum per day. In Britain criteria for home and large building design laid down by those authorities guiding the building industry as one of their major tasks leave very much to be desired. Designers of large structures are also being criticised because

their buildings ventilate at a must faster rate than is necessary for comfort, though this is admittedly a highly subjective point which probably has something to do with claustrophobia. Terminal re-heating, in which all incoming air is first super-chilled and then partially re-heated to the temperatures demanded by the occupants, is also being criticised for using far more energy than necessary. Choice of materials for buildings is also extremely important because it can dictate the rate of heat loss, or heat ingress in each of the three ways by which

heat is transferred—convection and conduction. The latter is controlled by mass and the use of insulants such as foamed plastics which have the property of trapping large volumes of air, itself a poor conductor. A recent innovator in this area is a comparatively small U.K. company which has succeeded in producing building materials which already have insulation built in—an apparently simple task but one which nevertheless called for a long period of research and a great amount of ingenuity, both in financing and in the development of appropriate mass-production techniques.

For convection read—mainly "draughts" something which good building can reduce to negligible proportions. Then comes radiation, which is mainly through the glazing. And a striking example of what can be saved in operating costs through energy conservation is provided by the Toledo Edison Building in which double-leaved chromium coated glass is used to reflect solar heat. The glass cost \$120,000 more than standard quarter-inch plate. But the engineers were able to reduce the capacity of the building's cooling system by 65 per cent, the heating plant by 50 per cent, and the distribution ductwork by an astonishing 66 per cent to provide a net capital saving of \$1,000 and a reduction in operating costs of \$40,000 per year.

This is a most encouraging result, but it does not help where buildings are under-employed and one stay-behind employee is using conditioner power for his and many other offices. Returning to the home front, a recent development is the appearance at an advanced stage of development of a heat-pump based hot water system for the average house within four years. Installed in this way, these pumps operate like refrigerators in reverse, collecting heat from outside the home and pumping it via a suitable low boiling point refrigerant chemical to a heat exchanger. This is a U.K. project and it

embodies a concept that could be engineered to reverse heat flow in the summer to give a form of air conditioning. With any luck—and that would include Government encouragement of such power-saving installations by tax rebates—heat-pump based home heat control equipment could soon become a common-place, particularly as the general public comes to realise that for say, a 4 kW input, 12 kW can be drawn from an evaporator/radiator unit outside the home even in sub-zero weather. A very large proportion of the U.K. housing stock has no insulation of any form whatever. An even greater proportion of homes has no form of air conditioning whatever. And before the market for packaged home conditioners opens up, there could be competition from sun-powered cooling units now under active development in Japan and the U.S.

Packaged conditioners in much larger sizes have been launched in recent months by several companies as emergency or add-on units which require little more site preparation than the provision of an appropriate power source. These will fill a useful role for older buildings where the cost of a complete centralised scheme could not be warranted because of the extent to which existing structures would require to be altered. There is, however, a marked trend in London and other major cities to tackle the problems of city accommodation by complete cutting and refurbishing of large, but obsolete, premises. Though expensive, this way of meeting the demands of office staff is only a fraction of what demolition and new construction now entails.

Because air conditioning and refrigeration are vast consumers of power, the Heat Transfer and Fluid Flow Service operated by NEL and Harwell is to be extended to companies who design and make refrigerating and similar plant. A new review panel with international membership will promote the production of a handbook of design data, computer programs and special features of heat exchangers, etc. Specifically, tube plate designs will be examined as will refrigerant behaviour, reduction of energy consumption and the corrosion of waste heat recovery devices.

## The peak of cool perfection

The cold facts are, that about 90% of all food consumed is process cooled, stored or transported by refrigeration somewhere along the distribution chain. It is equally certain that the majority of that total in the UK, has been so treated involving the use of Hall-Thermotank Products Limited refrigeration equipment. The same also applies to your favourite brewed beverage, some 90% of UK breweries are H.T.P. equipped, add to this the 80% or so of Lloyd's registered shipping (whether built in 'oriental' or 'occidental' yards) that are fitted with our equipment and the Hall-Thermotank Products units to be found worldwide the scale of this wholly British company's operations begins to sink in. Yet you will not find our name under your kitchen worktop. Despite this however, with our 100 years in the business we are considered to be the most experienced firm around, and if not the actual originators certainly one of the pioneers of industrial and commercial refrigeration. Our products portfolio is the most

comprehensive available from a single source world wide. With a range of over 100 reciprocating compressors with a power range of 1/2hp to over 750 hp, 80 different types of packaged unit, over 100 water cooling towers, over 70 varieties of heat exchangers and a sturdy range of line fittings to complement the main range and to give you the best possible refrigeration system money can buy.

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**INDUSTRIAL REFRIGERATION II**

**Comfort at work can aid efficiency**

THE EXCEPTIONAL summer of 1976 may have underlined the discomfort suffered in many factories and offices, but in most instances it did not reveal the problem for the first time. Indeed, many people were too hot at their place of work during the last miserable summer and others suffer all the year round.

Keeping cool is only part of the answer. Just as relevant in a wet island climate like our own is the need to keep the relative humidity down. Most people are only comfortable when the relative humidity is between 40 and 60 per cent. The average relative humidity in London during the summer is 70 per cent., so even when we have a poor summer, offices and shops are uncomfortable.

Buildings gain heat both from within and the outside. Internal sources of heat include people, lights and equipment. Each person gives off between 100 and 150 watts which, with the office space now allowed to each having shrunk from around 200 square feet some 25 years ago to about 80 square feet now, is equivalent to about 1.2 watts per square foot. The problem is compounded by the low ceilings, which do not allow hot air to rise out of the way as in older Georgian-style offices.

Lights are also a significant source of heat. A standard tungsten filament 100 watt bulb releases about six watts per square foot, while more heat is released by electric typewriters, photocopiers, computers and other office equipment.

Usually more significant is the heat gain from outside the building. Direct sunlight radiates heat through the windows and the building stores the heat and re-radiates it inside. The micro-climates of the shopping and commercial centres are often as much as 10 degrees Centigrade above those in the countryside. These outside temperatures are quickly reflected inside adjacent offices.

Air conditioning is automatically thought of as the way of coping with the problem. But although as a general rule it is the most effective expedient, there are a number of other approaches to the problem. The most effective, doubtless, is a component central station equipment brand new office block or factory with all the relevant devices built in. However, even cent. in 1975, the last year for an old block a lot of effective changes can be made.

Lighting can be made more efficient. Changing over to fluorescent or mercury halide can cut heat output by half. Overhangs on windows can prevent direct radiation. Alterna-

reflecting glass can be installed. Roofs can also be treated reflectively, thus cutting or eliminating their thermal gain. One such treatment recently on the market is Decadex, a plastic membrane made by Liquid Plastics of Preston.

Ventilation can also be an effective solution in some instances, particularly in factories. However, in most offices it is impractical. The large amounts of air that have to be moved to obtain a cooling effect also create draughts and disturb paperwork.

The best overall solution is air conditioning. There are two main categories, component central station equipment and package direct units. The former is normally built into new blocks, and the latter, in the last few years reflects the movement towards the modernisation market.

**Filter**

Both types work in essentially the same way. Air is drawn from the area to be conditioned, and fresh air is added as required. The air is then passed through a filter for cleaning and passed through a cooling coil to cool and humidify it, then it is returned to the conditioned space.

In winter, when the air needs warming rather than cooling, it would be passed through a heater instead of a cooling coil. It would also be humidified if it was too dry, although there is some debate at the moment whether humidification is an essential part of air conditioning equipment in this country, where relative humidity is rarely below 40 per cent. and then only for short periods.

From the cooling coil the refrigerant in the pipes takes the heat extracted to the compressor and then passes it through a condenser which rejects the heat outside the system. In the sophisticated heat reclaim systems this waste heat is used in parts of the building where it may be required.

The most recent survey by the Electricity Council showed that the market share of the component central station equipment has fallen steadily from 61 per cent. in 1971 to 54 per cent. in 1975, the last year for which there are figures.

A number of factors are responsible for the increasing attraction of packaged units. They are cheaper, both in capital cost and in labour costs. The units are improving and users are discovering that there is no need for the closer control that central station equipment

can provide. People prefer some variety in the atmosphere as long as it is within limits of comfort.

While running costs per square foot are roughly similar whatever the system, there is a large spread in installation costs for different systems. Mr. Bernard Hough, manager of the Air Conditioning Advisory Bureau, estimates that a simple window unit without a heater battery would cost about £1.50 per square foot to install, a more sophisticated split system or console between £1.75 and £2.50, a rooftop unit with ducting control and better distribution £3-£4 and central station equipment £8 plus.

The British industry has a remarkably long history. Already in 1835 the Electrical Development Association, forerunner of the Electricity Council, can point to a booklet extolling the benefits of air conditioning and picturing its application in a surprising number of buildings.

However, the modern industry got going properly in about 1960 and was estimated to be worth £147m. in 1975. The recession sparked off by the OPEC oil price rise in 1973 affected the industry seriously and the installed value in real terms fell by 14 per cent. in 1975 and by 8 per cent. in 1976 compared with a growth rate of 25 per cent. in 1975.

The market is thought to have bottomed out last year and to

be resuming its growth. There is certainly vast potential. Only 3 per cent. of commercial buildings have installed air conditioning, compared with the overwhelming majority in the U.S.

There are a negligible number of domestic customers and no one knows the total figure for industrial installations, because these are usually considered part of the production process.

The main manufacturers in central station equipment are Carlyle Air Conditioning Company, part of the Carrier Corporation of the U.S.; Trans-York Division U.K. of Borg Warner. Also significant are Westinghouse and Danam Bush. In the packaged range Carlyle and York are dominant along with Lennox Industries of the U.S.

**Importers**

Sharing 50 per cent. of the room unit market fairly evenly are Marston Paxman, an IMI company and Prestair, a division of Temperature which is part of the Norcross group. Much of the rest of the market is shared by a large number of importers—more than 80 at the last count.

A different set of companies are active in the ventilation market, which mostly consists of factories. Installation costs range from 75p a square foot to £2. In a large factory ventilation tends to be a far more

economical way of ensuring minimum standards of comfort, especially when automatic shutters, roof ventilators, ducting and extract ventilation are employed.

The main manufacturers are Coli, Greenwood and Airvak, Mysons, Woods of Colchester, while companies specialising in fans include Matthews and Yates, Davidsons of Belfast and Keith Blackman.

Not all factories find ventilation suitable. Where workers are engaged in sedentary tasks, as in electronic component factories, the large-scale movement of air causes disturbing draughts. Mr. Hough said he expected that an industrial comfort market in air conditioners in this area should develop by the end of the decade.

In 1975 the divide between industrial and commercial use of air conditioning was £41m. to £105m. respectively. The industrial sector included offices attached to factories and the commercial category consisted of shops, offices, public buildings, warehouses and places of entertainment.

In all these environments human comfort can add to efficiency. It is an unquestionable equation, but many users are convinced that the cost of supplying comfortable working conditions is more than recouped in terms of work output, more permanent staff and less absenteeism.

David Freud

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**Increasing use of cold gases**

**SIMPLICITY** of installation, operation and maintenance have led to the rapid penetration of the in-transit refrigeration market by cryogenic units, of which those based on liquid nitrogen form one group.

BOC claims to have the market leadership in this particular sector and to be selling hundreds of units annually. It holds an exclusive U.K. licence for the Union Carbide long-haul Polarstream and there are some 25,000 of these systems installed of which about 16 per cent. are in short trips such as from a depot to a number of stores.

The company's multi-drop Pelican unit, which is developed and covered by patents, is also expanding across the market.

Both systems are non-mechanical and thus require hardly any maintenance. The long-haul system, for instance, is expected to have a service life of some ten years and to outlive two containers in which it is installed. Both designs are completely silent in operation.

In the Polarstream the liquid nitrogen is sprayed into the cargo space to control the temperature. Pelican operates by allowing the nitrogen to boil off at a predetermined rate so that the food cargo is covered by a blanket of cold gas.

Control of temperatures with Polarstream is accurate to within plus or minus one degree Centigrade and it can reduce the temperature in the cargo space from ambient to the required running level in only three minutes, which is far quicker than with mechanical equipment.

**Liquid**

It is possible to have packaged versions of this unit which can be "clipped on" to containers and the practice is building up of installing bulk liquid nitrogen units at depots. Pelicans which are being improved by come in 8-hour and 24-hour versions to hold the cargo at sub-zero or loaded temperatures during the working day.

Dump charging is another way of using the liquefied gas by supplying calculated amounts of the liquid to the load space of a vehicle or a container waiting to go to the cold store. It can be used to augment conventional refrigeration.

A recent interesting example of what can be done with Polarstream is in the urgent transport of blood plasma from Newcastle-on-Tyne to Elstree on a regular basis. The Ford Transit van in which the equipment is installed has a cargo space maintained at minus 40 degrees C, or twice as low as the level the unit normally provides in containers. The van is insulated with six inches of polyurethane foam and this applying conventional units in this area should develop by the end of the decade.

developed jointly by ICI and Walls Ice Cream, based on the use of solid carbon dioxide. This equipment can be set from minus 40 to zero degrees C at the touch of a switch. The cooling rate is 1.75 kW for minus 18 degrees internal temperature and it operates by circulating the cold gas from the carbon dioxide "snow" through heat exchanger tubes, on demand from a thermostat.

The system is relatively simple and ICI indicates, its Drikoid solid CO<sub>2</sub> is found for some 1½ times as effective as liquid nitrogen.

The real target for the ICI development is, however, the many installations in refrigerated vehicles in Europe, in which cooling is provided by a eutectic holding plate system which is "charged" by running a current of power through it.

These plates contain a mixture of organic salts and need 10 to 12 hours connection to recharge, operating something like a storage heater in reverse. The main disadvantage of eutectic solutions compared with carbon dioxide and liquid nitrogen is the considerable weight involved. It is of the order of something like 20 times since a eutectic system at 11 tons would provide the same cooling capacity as the ICI Koldroof equipment at 150 lb.

There seems to be no defect in the argument since carbon dioxide snow is easy and safe to handle and installation of fresh blocks is a question of a few seconds. At the same time, any vehicle equipped with eutectic plates is paying an enormous deadweight penalty. Meanwhile, ICI estimates that to keep 3½ tons of food at optimum refrigeration point during a ten hour day would require, say, £5 worth of snow.

But there is still a great mass of vehicles equipped with conventional refrigeration units which are being improved by designers to provide more power from compact, light-weight units, having behind them a tradition which can look back to wartime developments, especially in Canada, to meet the needs of beleaguered British. Canadians claim to have pioneered rail-truck to be used to augment conventional refrigeration.

A recent interesting example of what can be done with Polarstream is in the urgent transport of blood plasma from Newcastle-on-Tyne to Elstree on a regular basis. The Ford Transit van in which the equipment is installed has a cargo space maintained at minus 40 degrees C, or twice as low as the level the unit normally provides in containers. The van is insulated with six inches of polyurethane foam and this applying conventional units in this area should develop by the end of the decade.

These have 35 years of tradition behind them and are not easily displaced by the newer, installed has a cargo space maintained at minus 40 degrees C, or twice as low as the level the unit normally provides in containers. The van is insulated with six inches of polyurethane foam and this applying conventional units in this area should develop by the end of the decade.

Equipment manufacturers are not standing still in methods of applying conventional units in the food industry, and a plant commissioned this year is being the Koldroof equipment used, for the first time, to chill

chicken carcasses from 100°F to under 40 in the very short time for the industry of one hour, through a controlled movement of the product in a blanket of air.

Dehydration is very low and bacterial growth is inhibited and it is expected that the cold gas from the carbon dioxide "snow" through heat exchanger tubes, on demand from a thermostat.

But while the parameters within which suppliers of equipment for the food and pharmaceutical industries have to work are extremely tight insofar as operating conditions are concerned, there is a certain amount of concern among engineers at the lack of agreement on how performance or rating of air coolers for which can only be a source of considerable difficulty to designers of large systems who want to compare alternatives.

One factor which will undoubtedly aid moves towards greater homogeneity within the industry is the present move in Britain towards construction of large cold-storage facilities to EEC standards. The first such unit to go into service is expected to be at Little Milton, Norwich, at the headquarters of B. Brooks (Norwich).

To be started by Smith and Partners as prime building contractors in November, it should be finished towards the end of 1978 and will be a complete EEC meat processing plant with all ancillary services. Capacity will be dictated by freezer operations and there are to be two blast freezers with the ability to handle nine tonnes each of various meats per 12 hour day, plus a flow freezer which will take one tonne per hour.

Boning, handling and other aspects of the plant will conform entirely to the requirements of the EEC and help the company to increase export activities rapidly while trebling output for retail.

The plant goes alongside a 1,000 tonnes plus capacity cold store, also to EEC standards, and on completion of the processing centre the site will house what is probably the first big meat complex conforming entirely with European norms.

Ted Schoeters

Handwritten signature or mark.



INDUSTRIAL REFRIGERATION III

Fierce competition among hauliers

LONG DISTANCE transportation of fresh food and other perishables in an industry which has expanded enormously the last 20 years. In 1960 the amount of refrigerated road traffic between Britain and the Continent was negligible. This is the industry estimates that the import/export traffic by air alone represented a growth in shipping has also been substantial.

British operators handle most of the export trade, in nearly 100 per cent of instances by road. They also control most of the incoming traffic and industry estimates put the U.K. market share at about 75 per cent, worth about £40m.

There are two heat transfer specifications, depending on usage—0.7 watts per square metre per degree Centigrade and 0.4 watts. The lower specification would apply to the highest of the three classes of temperature laid down in the agreement.

Dominated

The shipping container market to and from the U.K. is dominated by two groups, OCL, formed by four major shipping lines including P. and O. and Ocean Lines, and ACT, formed by Cunard, Blue Star and Ellerman.

Connections

Christian Salvesen is another big operator with close connections with the fishing industry and Scottish meat traffic. Jempeco International is a subsidiary of the National Freight Corporation and also operates in U.K. distribution.

Packaged units gain ground

A few years ago to use packaged air conditioning as an ad hoc solution to a special problem would hardly have been contemplated. It was virtually a matter of course that anyone designing the environmental than these could provide, fees for, say, a large complex would produce can do more than the standard tailor-made job.

Design engineers had tended to expect more from packages than these could provide, fees for, say, a large complex would produce can do more than the standard tailor-made job.

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Flexibility
Flexibility has improved greatly and units will operate effectively at as little as 10 per cent of design load. Meanwhile in several European countries it has proved possible to operate variable air volume terminals—that is units which control temperature in the rooms served by varying the volume of air supplied.

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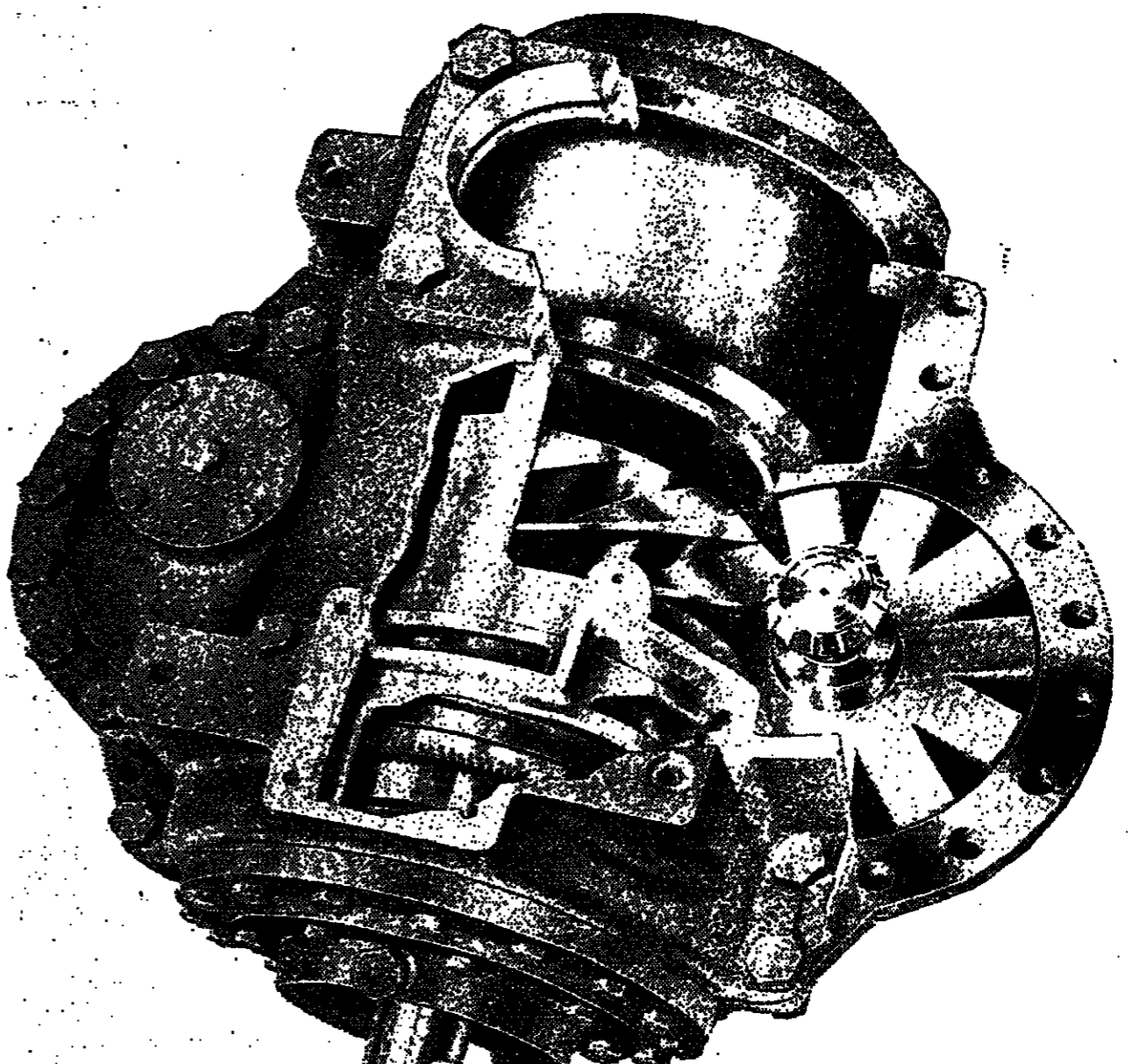
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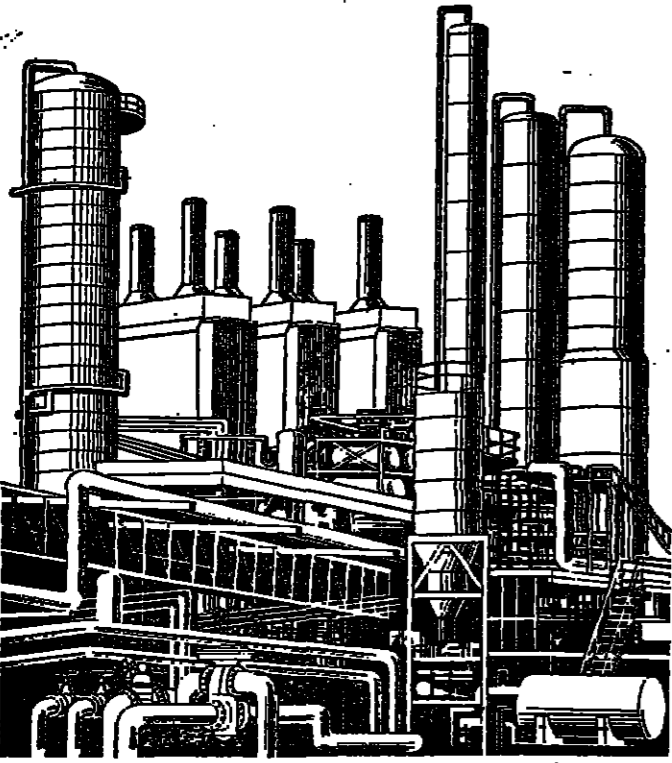
Ted Schoeters

# INDUSTRIAL REFRIGERATION IV

## Technology looks to gas

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DURING THE next ten years several of the most technologically advanced countries may begin to lay the bases of what could eventually become a hydrogen economy.

Faced with serious problems resulting from the vast rise in the cost of conventional fuels, authorities such as the DGRST in France, ERDA in the U.S. and the Federal Science Ministry in Germany have designated groups in a number of centres to undertake a protracted study of the most economical means of producing this potential fuel gas, as well as of methods of transporting and storing it.

Although some of the problems still appear formidable, the potential usefulness of the gas is enormous, not only as an adjunct for dwindling supplies of natural and synthetic gases but also as a raw material in a host of important chemical processes. The petroleum and petrochemical industries around the world already consume better than 200 bn. cubic metres a year in cracking and synthesis operations. But it may become necessary to step up this output many times if coal chemistry experiences the resurgence that appears likely as stocks of hydrocarbons continue to shrink and become more expensive. And apart from this application, there are many more in metallurgy—fluidised bed ore treatment in Venezuela, blast furnace studies elsewhere.

There are no serious problems in its distribution or storage. Hydrogen pipelines have been in existence for some years in the Ruhr, the Houston areas of Texas and in Siberia, some of them measuring as much as 30 cm. in diameter. Until recently, town gas contained up to 50 per cent. hydrogen. But there is no doubt that to move towards massive production of this gas on a national basis would bring about new requirements for compressor equipment and cryogenic units for the production of liquid gas on an unprecedented scale.

Some authorities believe hydrogen production to be wasteful of the primary energy consumed in its manufacture, even by direct reduction of methane in high-temperature

reactors or by the advanced electrolytic method of decomposing water vapour at high temperature invented at a Grenoble research centre and under investigation by General Electric (USA). Others assert that hydrogen production is the best means of using expensive nuclear plant at its optimum instead of throttling it back or closing down completely in periods of low demand such as at night or in the summer months. Whether one or other view prevails is too early to say. Enough is being spent to tackle all the problems seriously and the energy crisis is not going to go away.

### Hydrogen

If, as the Philips organisation suggests, easily decomposed hydrides of certain metals could be used in storage "batteries" to drive appropriate engines for vehicle propulsion, by releasing their hydrogen content through the application of heat, yet another large market

for pumps and compressors could open up. The capacity of such chemicals to fix hydrogen is such that a given volume contains up to twice as much of the element as the same volume of liquid hydrogen.

Not so far down the cryogenic scale, liquid nitrogen, extensively used in food treatment, is finding new applications which could spell use in high volumes. It has already been applied in extreme cases where serious problems have been encountered in building and civil engineering with unstable sub-soils discovered only after heavy loads have begun to build up on them.

Recently, two developments in metallurgy have pointed the way to wide-scale use of this gas, the most surprising being the use of liquid nitrogen (at minus 196 degrees) to freeze sand moulds for the casting industry. A process under development at W. H. Booth in Rotherham offers a worthwhile economy in materials and energy and can be used with

commonly demanded materials such as grey irons, aluminium bronze and stainless steels. Casting fumes are sharply reduced in this attractive manufacturing method which has great potential.

Even higher is the possible demand for the gas following the discovery that immersion in liquid nitrogen under certain conditions does not embrittle steel as might be expected, but imparts great toughness to the extent that working lives of treated components have been extended by between 50 and 500 per cent.

Leeds University metallurgists are seeking to discover why steel thus treated should be so much improved and why the new properties apply throughout the mass of the component which does not lose them on re-grinding. BOC International, which originated the process under the name Cryotough is seeking patent protection. It obviously has very wide applications.

A new method of dealing with

problems on high volume high pressure pipelines and effect repairs without the need to pump down has been demonstrated on several occasions by BCB Pipe Freezing Services. The company literally plugs the pipe above and below a problem zone by treating it with nitrogen. Removal of faulty valves and repair of leaks as well as major re-routing is offered on a 24-hour turnaround which will be a great boon in continuous production industries or where buildings such as airports are occupied around the clock and need to run their services accordingly.

A few years ago it had been hoped that superconducting motors and magnets would quickly make their way into industry. But the hopes were premature, except in some very special research and/or military jobs, and this area is unlikely to demand much in the way of cryogenics for years to come.

### Competition

There is competition on a small scale and in the laboratory from such devices as cryo-generators, a typical design of which from Philips uses a Stirling engine, compression/expansion cycle with helium as a working fluid to cool down a "cold finger" of copper to about liquid nitrogen temperatures. These are reached in just 15 minutes with equipment which weighs only six kilograms in weight.

For larger volumes of helium and a great deal of high technology cryogenic equipment would be needed if the power authorities in the developed countries decided to use cables based on superconductive materials to supply city centres with electricity. The attraction here is that a relatively small cable can carry very heavy currents provided it is kept around liquid helium temperatures at which resistance to current flow is nil. Now, although the Central

Electricity Generating Board in Britain appears to have rejected the technology, very serious consideration is being given to it in the U.S., and at least two of the largest power equipment companies are experimenting with lengths of special cable at high currents. One reason for the work is that the civil engineering costs of power supply can be very sharply cut.

A demand could arise in the relatively near future if IBM and other computer makers decided to provide central processors based on ultra-fast switching logic built up from what are known as Josephson devices. These make use of a phenomenon predicted by a British physicist, that at low temperatures, some materials

will pass a current at very high speeds. IBM has built Josephson switches which work so fast that there is no known means of measuring their speed.

This is not to say that liquid helium production and storage equipment will become a commonplace in every computer centre in the next decade. But given the speed of electronic engineering development at the moment, who would care to predict what will happen in the decade thereafter?

Ted Schoeters

## Developments in insulation

BRITAIN'S THERMAL insulation industry is about to enter a period of unprecedented change which may leave some companies in the industry out in the cold.

As the winter progresses, companies which have failed to take account of changes in Government and public attitudes to energy conservation may find their markets stolen by other more enterprising organisations with more appropriate products.

These changes have yet to crystallise. But within 12 months Britain may be the only country in Western Europe with mandatory standards of thermal insulation for all types of buildings.

Consultation proposals and replies from industry which could lead to these mandatory standards are now being considered by the Building Regulations Advisory Council. By Christmas 1977 the council will report to the Secretary of State for the Environment whose Department issued revised proposals to industry in July 1977.

The earlier proposals issued in April 1976 set-out the Department of the Environment's suggestions for building regulations which would impose thermal insulation requirements on various types of buildings other than dwellings.

The idea was to explain how, in the Department's opinion, thermal insulation requirements might be extended to a wider range of buildings under the powers of Part III of the Health and Safety at Work, etc. Act 1974. This would have enabled building regulations to be made for the conservation of fuel and power.

But officials recognised that while building regulations made in the interests of health and safety were concerned with the minimum standards necessary to achieve this purpose, the distinction between minimum and desirable standards was not so clear when energy conservation was the objective.

Significantly the Department recognised that changes in regulations may have an effect on many related aspects of the building industry. These would probably include the design, construction and use of buildings, the availability of the necessary labour, the supply of building and insulating materials, and the existing workload of local authorities, since these would be called to enforce the regulations.

As is now clear, the consultation proposals which resulted from this early discussion paper are likely to significantly alter the structure and nature of Britain's thermal insulating materials industry.

The Department's objective was to make amendments to Part F (Thermal Insulation) of the Building Regulations 1976. Many of the comments received from local authorities, industry and other interested organisations agreed that Part F should be extended. According to officials, it was generally agreed that no building type should be excluded.

There was less agreement among these organisations about the standards of insulation radiant energy. In houses it is likely to be useful, acceptable and workable with existing materials and building methods.

But the majority, said the Department, favoured even higher standards than those suggested by the original discussion document issued in April 1976.

Many commentators on the

proposals also thought that standards should be established which left scope for individual design. It was suggested that one way of attaining this would be for the Department to introduce an energy saving target for individual buildings. This would be an alternative to the application of insulation performance standards, the U-standards, for the main structural elements of a building, such as the walls and roof.

Amid the debate among parties interested in thermal insulation, there was almost universal agreement that standards of insulation should be raised for all types of buildings.

Changes made in the interim between the publication of the original discussion paper and the consultation proposals sent out this summer include the grouping of places of assembly and storage with the list of all building purpose groups to be covered by higher standards.

Another important change for thermal insulation industry was the suggested reduction in the performance insulation standard from 1.0 to either 0.6 or 0.7 for the walls of most types of building.

Energy saving targets are not to be introduced at this stage, says the Department. It believes the concept of setting targets which designers and occupants of buildings may meet has not yet been sufficiently developed.

Nevertheless, industry and commerce can look forward to energy targets being laid-down in future regulations. The current proposals have been drawn-up in such a way that they may be amended to incorporate these. These would in turn be embodied in a design code now the subject of an exercise at the Department.

### Changes

In the meantime, the British thermal insulation materials industry is gearing-up for some of the most important changes to its pattern of work to emerge for years.

New, low levels of permissible thermal insulation standards may call for new materials, or new combinations of existing thermal insulation materials.

At the moment, thermal insulation materials commonly used in houses, offices, factories and public service buildings, railway station terminals and airport concourses, come under nine headings.

The most ubiquitous material is mineral fibre. This is made from molten rock and drawn into fine, friable fibres for construction into a matt, rolls of which are familiar to builders and do-it-yourself enthusiasts. Glass fibre is also a commonly used material.

Expanded polystyrene and expanded polyurethane are other, more recent developments.

Fibre insulating board, wood wool slabs of wood fibres in concrete, synthetic concrete aggregates and aerated concrete blocks all come under the heavier category of thermal insulating materials.

Aluminium foil, usually glued to a rigid former, provides a highly reflective surface for often used behind central heating radiators.

Cavity fillings are available through specialised contractors. Materials now used include urea formaldehyde, blown-in mineral fibres, blown-in polystyrene granules or granules of polyurethane. The granular approach is the latest to be tried success-

fully for house and factory insulation.

When the new higher standards of thermal insulation come into effect, there are likely to be changes in the way these materials are used.

The Structural Insulation Association, represents some 20 companies making all these products.

Reginald Aston, the chairman of the Association has no illusions that the onset of the new regulations will leave the industry untouched.

There will be major increases in demand for thermal insulation materials, although Mr. Aston believes there will be no shortage of raw materials. The industry is able to move to double shift working, and can further increase capacity, and provided demand gives, the companies an adequate return on capital.

The Association sees the new regulations as the start of a "new era" in thermal insulation in Britain. Changes will occur in the use of certain materials. Concrete blocks, now used widely as a structural and partial thermal insulant, may have to be relegated solely to a structural role in view of their poor thermal insulation properties. Alternatively they may be combined with other insulants.

Falling sales of concrete for insulation would have repercussions for the manufacturers, who may be left with some spare capacity.

The other side of a downturn in aerated concrete demand would, of course, be an upsurge in demand for other, more effective thermal insulants. At the moment 40 to 50 per cent of concrete blocks go into homes, the balance into industrial and commercial buildings.

Assuming the Building Regulations, Part F (Thermal Insulation) are amended as proposed by the Department of the Environment, there is no doubt that Britain's factories, offices, and other industrial and commercial buildings will have standards of thermal insulation at least as high as those in continental Europe.

As an energy conservation exercise this may be admirable, but it also means that Britain's houses will then have insulation standards lower than those regulating British factories.

A public realisation of this fact will undoubtedly lead to yet more changes in the Building Regulations, and more business for the thermal insulation material manufacturers.

Lynton McLain

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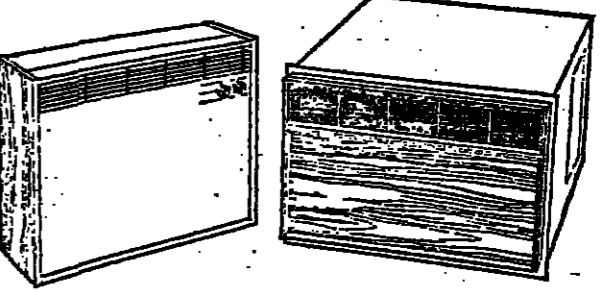
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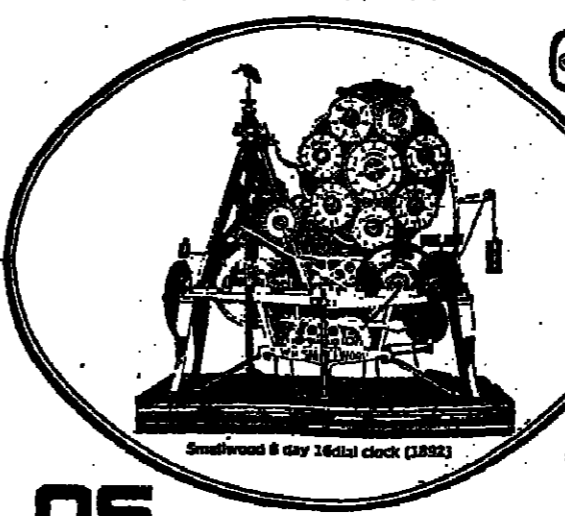
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# The Management Page

EDITED BY CHRISTOPHER LORENZ



## Finding a way through the statutory fog

By A. H. Hermann

LONG, unintelligible statutes, introduced by the secret priest-like Parliamentary drafters, whose words were used incidentally by Lord Hailsham, former Lord Chancellor, to describe the present method of British legislative drafting. Nowadays this description will shock few and surprise no one. Unfortunately it is easier to understand, and much of the legal profession has a vested interest in keeping the law mysterious—the frustration of judges. Lord Salmon has complained of the "wholly unnecessary complexity and obscurity of language" and Lord Denning, Master of the Rolls, confessed that he has had a life-long struggle to try to find the meaning of it all. Given the opportunity of the litigation, the vested interest lawyers and the resigned attitude of the judiciary, why this sudden discontent? The

reason is that the current tenor of governments to regulate every activity makes it imperative for the public, and for businessmen in particular, to know what they must or must not do in urgent situations which develop ten times every working day. No pocket legal code has yet been developed, nor has a midget lawyer been bred to fit our waistcoat pockets. So the best solution would be to change the method of legislative drafting.

One obvious example of the problem is that employers and employees alike want to know what lies behind the smoke-screen of words which obscures the notion of "unfair dismissal" in the Trade Union and Labour Relations Act 1974, as amended by the Employment Protection Act 1975, Schedule Six.

An invaluable aid to the befuddled can at last be found: on page 202 of "Legislative Drafting: A New Approach," a newly published book by Sir William Dale.

The author, a former Legal Adviser to the Commonwealth Office, shows how a composite of French, Swedish or German would express the intention hidden behind paragraph 6 of the Schedule 1 to the U.K. Act: it comes out quite clearly in about one third of the words used by the parliamentary drafter.

imaginary conversation between an author and a solicitor, to decipher what is copyright according to the ninety-page English Copyright Act. The nearest thing to a definition he can find in the Act reads "In this Act 'copyright'... means the exclusive right... to do and to authorise... certain acts... restricted by the copyright." This is, of course, quite meaningless. Copyright remains determined by the ordinary meaning of the word, so that the Oxford Dictionary is a better source of law than the Act.

Kenneth Gooding tells how one international company reorganised itself so as to cope with an unexpectedly savage cutback in demand

## How forklift trucks lowered the break-even point

THE WORLD'S major manufacturer of forklift trucks is currently implementing a significant change in strategy so that it can cope with the lower rate of growth the industrialised countries expect for some years come.

Eaton Materials Handling, a division of Eaton Corporation and maker of "Yale" lift trucks, implemented its new approach in early 1976 when it realised there would be a slackening in the pace of demand for forklift trucks after the boom years of the 1960s when there was an average annual increase of 10 per cent. The changes have been produced more quickly than originally intended because of the impact of the recession.

Eaton's European operations are as heavily affected as those of North America. And employees at its plant at Velbert,

West Germany, have recently been told that the reorganisation calls for a big reduction in the workforce there.

Streamlining of the U.K. plant, at Westfield, Staffs., took place 18 months ago when 150 were made redundant, roughly 30 per cent of the total workforce. The indications are that a similar cut-back is being asked for at Velbert in the current discussions with employees and unions. Eaton has made it clear that there will be management changes, too, within the European businesses and it is not only shop floor employees who will be affected.

The scope of the immediate problem presented to companies like Eaton by the recession can be judged by the statistics for the North American lift truck market. In the peak year of demand—1974—110,000 forklift trucks were sold. In 1976 the

total slumped to 75,000. Eaton reckons that it won't be until 1981-82 that demand will get back to the 110,000 level. The situation is similar in Europe. The industry could supply 130,000 trucks against the 85,000 it hopes to sell in 1977.

All this is of extreme importance to Eaton because, although second to Clark Equipment in the U.S. market, it claims to be first in the world in the number of trucks it produces. In 1976 sales of industrial trucks from its plants in North America, Europe, Latin America (Mexico, Argentina, Brazil) and Japan (a joint company with Sumitomo Heavy Industries) amounted to \$226m. (£125.5m.). To put things in perspective, however, Eaton Corporation is mainly concerned with the manufacture of components for the truck and automotive industries and in 1976 had a total turnover of \$1.8bn. (£1bn.).

Like many other companies in the forklift business, Eaton had not expected such a savage cut in demand after the 1974 boom. Some American investment analysts have estimated that in 1975, Eaton's industrial truck operations incurred losses of anything between \$12m. and \$30m.

This suggests one good reason why the structural changes were speeded up. A considerable shake-up of management (both people and style) and of the manufacturing processes have been involved.

On the manufacturing front the aim has been to cut out unnecessary duplication of overheads in what previously were semi-autonomous plants. In the States there is now a centrally-managed, centrally-scheduled manufacturing system linked through Eaton Corporation's major computer installation at Cleveland, Ohio. Purchasing and planning have been centralised, cutting out the need for some salaried people at individual plants.

Alan Bethell, the British-born Eaton vice president who has headed the materials handling division since July 1975, says: "We looked to see what frills had developed which we did not really need on the management side. For example, we took out three computers, saved \$400,000 a year and some salaries.

"As the business grows we simply cannot afford to allow

overheads to grow at the same percentage rate. We have lowered the break-even point in North America and are still looking for more."

Lines of communication between managers and the centre have been shortened and managers have also been encouraged to get involved in more direct contact with their colleagues on similar levels at other plants.

restricted by the copyright. This is, of course, quite meaningless. Copyright remains determined by the ordinary meaning of the word, so that the Oxford Dictionary is a better source of law than the Act.

On the manufacturing side, the strategy called for the establishment in North America of two assembly plants—one for trucks powered by internal combustion engines and one for electric trucks—and for three speciality plants for major component manufacturing to support plants in America and other countries too.

This manufacturing programme will involve expenditure of between \$44m. and \$50m. in the period 1974-79 on top of the several million dollars a year usually spent to keep the plants up to scratch.

So far Eaton has opened a new plant at Greenville, North Carolina, as the electric truck assembly plant, while the existing Philadelphia unit, the biggest factory in the world for making forklift trucks, is evolving as the "gas" truck plant as well as having a role as a supplier of a variety of machined parts.

In Salem, Virginia, another new establishment is being developed as the electric component plant and as a producer of a variety of machined parts and components to feed the two assembly units. The first phase of a Hendersonville, North Carolina, factory has been built and has absorbed all transmission case and drive axle machining and final assembly of these components. At Lenoir, North Carolina, a plant is under construction as a mast and cylinder supplier.

All this will add 100 per cent to Eaton's capacity in the U.S., mainly by relieving production bottlenecks in the manufacture of components.

An important part of the new strategy has been Eaton's determination to slim down the range of models it has been producing while at the same time up-dating its products. The company claims that by the middle of next year 90 per cent of production will be of equipment introduced less than five years ago.

The impact of these changes

will be felt particularly in Europe where Mr. Bethell insists "there was a mass of low-volume products tying up capital without producing a proper return."

In Europe the idea is for Velbert to be the assembly plant for internal combustion engine trucks while Westfield will concentrate on electronics and be the main component machining centre.

Hand in hand with the alterations at Eaton's manufacturing plants goes a "global engineering strategy." The concept is for certain key components — masts, cylinders, of the components will be made

drive axles, steer axles, transmissions and so on — to have one world-wide specification. While frame sizes and configurations will be changed to suit local markets, "the goal is a full line of industrial trucks that have basically interchangeable parts and components in all of the 130 countries in which we sell them," says Mr. Bethell.

Mr. Bethell insists Eaton's customers will benefit from the "global engineering approach" by having better parts and better availability in periods of high demand because there will be interchangeability of components between Eaton trucks—for example, one axle will fit most models.

When the re-shaping of the North American and European operations has been completed sometime in 1979, Eaton will be "set for the next five years," says Mr. Bethell.

The changes Eaton has already made, designed as they were to reduce labour, reduce work-in-progress, speed up the manufacturing cycle, improve responsiveness to the market place, reduce costs and improve profitability, have been bearing fruit. Stockbrokers estimate that the industrial truck business made a small profit in 1976 and should do significantly better this year.

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Back duty inquiries do often take a long time, and it is not possible to say whether either the Inland Revenue or your own accountants are open to criticism. You have no right to have of course a right to ask your MP (or indeed any MP) to refer a complaint of maladministration to the Parliamentary Commissioner—the Ombudsman. Your first step must be to have a long talk with your accountant, to enable you to form an opinion as to where any blame for the length of the inquiry may lie. If you should feel that your accountants have been at fault, then possibly your bank manager may be able to suggest a firm who could take over the conduct of your tax affairs. To change accountants at this late stage, however, may prove very expensive.

If you are reasonably satisfied that your accountants are not to blame, then your local MP may be able to help you, even if you do not feel justified in lodging a formal complaint of maladministration. For example, the Tax Inspector, if indeed you have not met the Inspector face-to-face for some time.

No legal responsibility can be accepted by the Financial Times for the answers given in these columns. All inquiries will be answered by post as soon as possible.

FINANCIAL TIMES

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Wednesday October 19 1977

Courage and firmness

CHANCELLOR SCHMIDT kept his nerve. The ordeal which he can consider himself immune; and his colleagues had to face neither can any citizen who is in the past few weeks was not prepared to shut himself far the most serious in the long off from the world. It is for and escalating history of inter- national terrorism. Not only was interests of all countries to there the kidnapping of the industrialist, Dr. Schleyer. That had been preceded by the killing of the banker, Dr. Ponto, and the Federal Prosecutor, Dr. Buback. It was followed by the Mallorca hijacking. Such was the apparent efficiency of the terrorist organisation that it must always have seemed possible that it could hijack one aircraft, it could hijack another, that if it could pick up Dr. Schleyer, it could just as easily pick up someone else. That was the nightmare of escalation. Besides that, there must always have been the fear that even if the authorities were firm, they might bungle the rescue operation—as, in fact, happened at the Munich Olympics in 1972 when it was the hostages themselves who were killed.

Inquest It has to be said, too, that although the Schleyer affair has been the most serious so far, it is not the worst imaginable. Suggestions that terrorists will have been the fear that even if the authorities were firm, they might bungle the rescue operation—as, in fact, happened at the Munich Olympics in 1972 when it was the hostages themselves who were killed.

Sanctions Yet Herr Schmidt seems to have stuck throughout to two basic principles. The first was the determination not to give in. The second was the need to secure as much international support for his stand as possible. He was not helped by the Japanese example of giving in to hijackers even when Dr. Schleyer was still kidnapped, group in German prisons and it is significant that the kidnapping Japanese surrender was actually prompted by the fact that they were informed of events throughout, despite the fact that they had been isolated? How is it that they received the weapons with which some of them yesterday killed themselves? Above all, how is it that in many ways most liberal of societies breeds such a hard core of extremists who have been able to operate what amounts to a state within a state?

The dollar and world trade

THE WEAKNESS of the dollar has become more marked since the Administration's economic policies, by the way, that a good meeting of the International Monetary Fund at the end of last month. This weakness has, which would almost certainly of course, been greater against some currencies than against others and has been greatest against the yen, whose dollar rate the Japanese government has allowed to appreciate to some extent through fear of direct restrictions on its imports into the U.S. But the dollar has been weak against currencies in general, and not simply because of President Carter's undertaking to give the U.S. economy a fresh stimulus next year if this were needed to maintain an adequate rate of growth. This in itself would be acceptable. What foreign observers find difficult is to reconcile this expansionist approach with a trade deficit which is expected to be extremely large not only this year but next—not least because the Administration's energy conservation proposals have so far come to very little and U.S. oil imports are continuing to rise.

Uncertainty The uncertainty on the monetary front is reinforced by its very high level in the first half of this year and will probably fall further—how much is uncertain. Unemployment and unused industrial capacity are both high, though both concentrated in particular sectors.

Tax cuts It is a matter for dispute, moreover, how any stimulus to the economy should be administered. A tax cut is one obvious possibility; but the difficulty of providing a tax cut strictly tailored to fit the internal economic situation would be increased next year not only by congressional elections but by the introduction (its publication has already been postponed several times) of the President's promised and comprehensive proposals for tax reform. It is a measure of the prevalent lack of confidence in

WHEN British Leyland announced its new Rover 2300/2600 range a Leyland executive murmured, "We have just launched another waiting list." His remark was echoed by a colleague. "We are not marketing our cars any more," he said. "We are running a department of creative allocation."

The two comments, made in sadness rather than anger, go to the heart of what might be termed the popular theory of what is wrong with British Leyland. According to this view, the shop-floor workforce in Leyland Cars is the main cause of the present sales debacle. Strikes, industrial disruption, and the consequent failure to build cars have undermined the company's financial base.

This argument, as the unions have found, is difficult to counter. It is self-evident that a company which is in business to sell cars cannot survive under the normal commercial rules unless it first makes them. But it can be argued—as the workers have done at various stages—that the industrial relations problem in Leyland Cars is exaggerated. According to that version blame for the company's present problems attaches equally to: (a) Lack of investment; (b) Disputes and lack of supplies from component producers; (c) Managerial incompetence; (d) Poor organisation.

In the event, the chapter in the Report on reform of industrial relations was nothing like as tough. Sketched out by Mr. Urwin, it talked about "a further gradual but substantial reduction in the number of collective bargaining units within BL."

Leyland: time is running short

By TERRY DODSWORTH, Motor Industry Correspondent

deal of play of the importance does that mean that more investment-frees will be threatened and introduced? The Leyland Cars management is well aware of this dilemma. It has never been happy with the investment pauses it has imposed, but believes that the process has, in effect, been forced on it by the present method of phased investment against performance. "The trouble is that the Government simply does not let us get on with the job," a senior executive says.

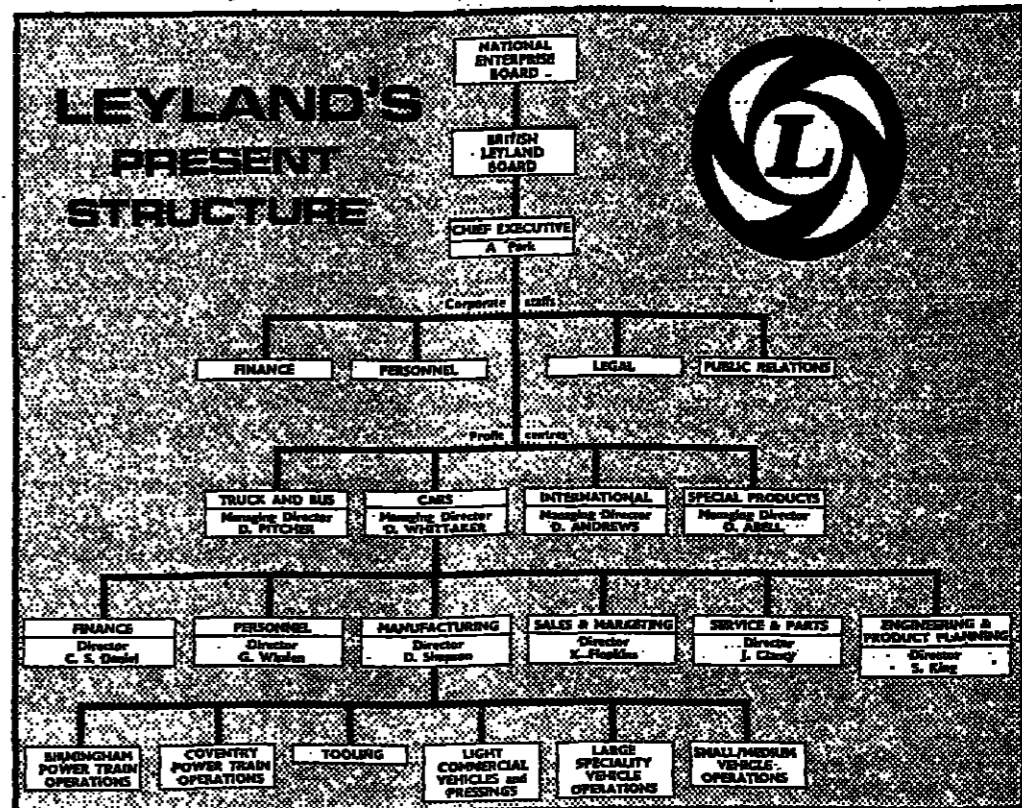
Rational pay structure That is why Leyland Cars is now involved in its make-or-buy attempt to steamroller the unions into a new system of company-wide bargaining. The belief seems to be that if this is accepted—and an overall majority of stewards did agree to the plan yesterday—the company will be well on the way to greater industrial peace. According to this theory, centralised bargaining will lead to a more rational pay structure, fewer leapfrogging pay claims, and a decline of the importance of local issues which have been behind much of the industrial unrest in Leyland.

Clearly, yesterday's vote gives the Leyland management the initiative and more breathing space. But whether it settles the question of how investment is phased into the company is another matter. It is stretching credulity to believe that Leyland cars will make a sudden turnaround after this vote and start producing cars quickly, steadily and with productivity much better than in the past two years. But if the performance does not improve radically,

Some Leyland executives have a highly ambitious solution to this problem. They would like to negotiate with the Government arrangements similar to those which they believe exist between Renault and the French government under which the company can borrow virtually at will against government guarantees. Because the French government stays out of day-to-day involvement in the company's affairs (although it has directors on the main Board), Renault has much more freedom of action than Leyland, it is claimed. And this is underpinned by the financial independence which allows management to dictate tactics in any given situation.

Since the thinking behind the Leyland rescue has been designed to avoid giving the company a blank cheque, it is extremely unlikely that the Government would be tempted to adopt this idea. One alternative, raised again during the present crisis, would be to give the company strict cash limits around which it has to plan its investment. At present, the Leyland structure leads in the opposite direction, with the central development plan as it were inscribed in stone, and the investment tailored to suit it. Clearly, if this approach were adopted, it would mean that the company—and most of all the workforce—would be forced to face up to the issue of cutting investment much more directly than under the present scheme.

The other alternative is to alter radically and begin to break up Leyland. That idea derives its attraction from the notion that smaller units are more manageable. It is easier to identify areas of investment priority. The argument goes, in units of more limited scale. There is little doubt that there is some support for such a move among certain National Enterprise Board members. Two basic schemes are being proposed for dismantling the present structure. On the one



hand, the main business groups within British Leyland—Cars, Truck and Bus, and Special Products—could be separated and made to report directly to the NEB, ridding the organisation of the holding company and centralised staff organisation in London. The second idea would carry the break up further dividing Leyland Cars itself into smaller profit centres—probably for specialised cars, volume cars, and drive train parts (engines and gearboxes)—which could call on central staff for engineering and financial services. Either form of re-arrangement would give the NEB and the Government the opportunity for making changes in top management.

the company will still have to negotiate with the shop stewards it has defeated. It also has a long, hard period of talking ahead in order to tie up the new bargaining and wages package it is proposing. Besides, the old enmity between the engineering and transport workers' unions which underlies the present troubles will remain.

The danger is that these issues will be fudged. It is quite possible that Leyland's labour relations will still be fairly un- settled four weeks hence, but will contain just enough promise of improvement to persuade the NEB and the Government to give the company yet another chance. But as Mr. Varley, the Industry Secretary, noted in a speech in Birmingham this week, if the problems are not thoroughly resolved now, no amount of Government money can pull Leyland out of its decline. The motor industry is a highly competitive business, in which the vultures are always hovering around the weak, waiting for the first hint of a collapse.

Attractions for unions

Failure in these talks and further labour troubles would push the company inexorably towards a split. In trade union terms this move towards smaller organisations also has its attractions. Local issues could be settled at local level as always used to be done in Leyland. This would not, of course, guarantee better labour relations—Leyland had plenty of problems when it was a group of small companies. But it should make it easier to tailor investment to specific areas of success; and it could equally be argued that the smaller units would be more within the managerial compass of a team which has found great difficulty in controlling the present, large-scale Leyland organisation.

It could be that the next month will determine the direction in which Leyland will move. By mid-November the company is due to finalise its regular business review with the National Enterprise Board. This will have to give some indication of progress made on the labour front. The NEB will then be able to decide whether the company has met its target more limited ambitions.

MEN AND MATTERS

Hodgson's choice for bookmen

If you fancy buying 4,000 copies of a 1974 book by Spike Milligan called 'Sports of Delight', then you should hurry along to-morrow morning to London's Chancery Lane. Alternatively, you might like a few dozen copies of some weighty HMSO documents on British foreign policy between the wars. This will be among a curious pot-pourri of books being auctioned off at Hodgson's Rooms, now owned by Sotheby's, as part of a bid to revive a Victorian book trade tradition.

The idea is being viewed with some grumpiness by owners of the blossoming "bargain books" companies, who like to make bi-lateral deals with publishers clearing excess stocks out of their warehouses. The prospect of bidding for lots ranging from a handful to a thousand copies of one title does not appeal—even though the auctioneer will be someone as grand as Lord John Kerr, head of Sotheby's books and manuscripts department.

When I looked in at the Rooms yesterday morning as viewing was due to start, only the staff were there. The display copies were set out in a cheerfully haphazard way—aging books on divorce nestling up against limited edition translations of Thucydides. However, it seems that quite a few people were browsing when the company went public around later in the day. Sotheby's do not appear to credit suggestions that some remainders' dealers will stage a boycott.

Most of the books, are naturally enough, being put in for auction by the publishers. Stephen du Sautoy of Sidgwick and Jackson said firmly that Spike Milligan's book was "not being remembered"—the company was just getting rid of



"They probably got the idea from Maggie's referendum."

Sharp vibrations

First thing that stockbroker Tony Rudd did when he bought his copy of "Slater Walker: an Investigation of a Financial Phenomenon" by Charles Raw, was turn to the index. A comment enough reaction, no doubt, among men of substance in the City.

He found the company of which he is chairman—Derritron—had a mention. Apparently, the fallen phenomenon had briefly held a few shares when the company went public in 1984. But luckily for Derritron, there was no takeover and no stripping, as Rudd happily recalls.

But this week, Rudd is himself in the thick of a takeover struggle with Derritron's arch rival, British Electronic Controls. The two firms are the only ones in the country making vibration test equipment both were set up in the early '60s by renegades from Pye. Now it

Grunwick absentee

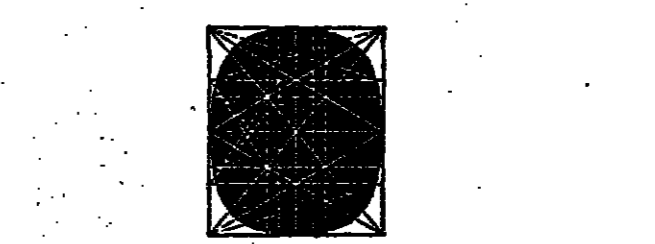
George Ward will not, after all, be speaking this luncheon in the City church of St Lawrence Jewry. At the last minute, his political advisers have warned him against it. So his place will be taken by Robert Moss, director of the National Association for Freedom, talking about sub- version.

Quick on the draw

Roy Mason, Northern Ireland minister, was asked at a Washington lunch this week about reports of torture by the Royal Ulster Constabulary. He whipped out with a great flourish a copy of the British Government's pamphlet telling people how to go about filing a complaint against the police. "I just happened to have it in my pocket," he explained.

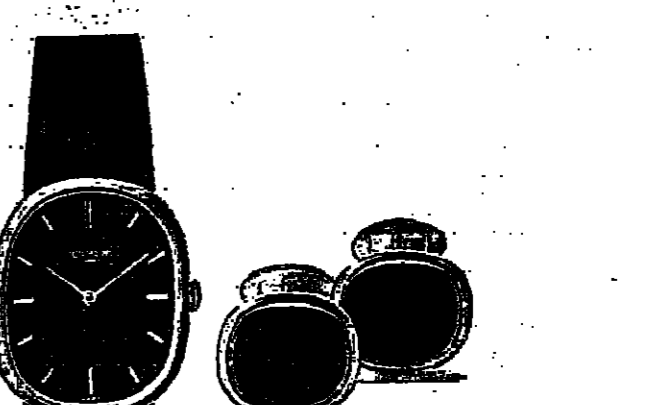
Smiling through

There is a pained air at Thames TV when you suggest that Eamonn Andrews scarcely seems the ideal choice to present their new financial pro-



Unmistakable

Golden Ellipse and 18 ct. blue coloured gold. They invariably identify Patek Philippe designs. They tell you that the watch was finished entirely by hand, in the manner practised by Patek Philippe since 1839. The Golden Ellipse was derived by Patek Philippe from the Golden Section, the principle which already inspired the design of the Parthenon. The blue coloured gold of the dial is a bit of alchemy signed Patek Philippe.



Men's model (Ref. 3748). Matching cufflinks also featuring Golden Ellipse and 18 ct. blue coloured gold.

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Handwritten signature or mark at the bottom of the page.

# The problems after Schmidt's triumph

THE HARD core of the Baader-Meinhof terrorist group is dead. The hostages aboard the hijacked Lufthansa jet are free. Even though the fate of the kidnapped industrialist, Dr. Hanns-Martin Schleyer, remains unclear, the terrorist movement in the Federal Republic of Germany has been dealt a sharp blow. Is it fatal? Could the movement have gained new martyrs and be spurred to still more devilish sophistication? The questions are being asked in Germany even amid the euphoria over the successful German commando operation in Somalia—itself followed quickly by the suicide of three terrorists yesterday in Stuttgart Stammheim jail. Andreas Baader, 34, and Jan Carl Raspe, 33, shot themselves. Gudrun Ensslin, 37, hanged herself. How did the first two obtain their weapons? And how did any of them know the commando raid had succeeded, thus robbing them of the hope that the Bonn Government would be blackmailed into flying them to freedom? After all, these and other jailed terrorists are supposed to be wholly cut off from the world under the special law rushed through Parliament earlier this month.

## Peace

Attention has often focused on the Baader-Meinhof group, as though the jailing or death of those immediately associated with the band might bring peace to a sorely-trying German society. But beyond the handful remaining alive in German prisons, an indeterminate number of terrorists is still at large. A year or so ago authorities claimed there were a few hundred in that hard core. A few months ago the estimate had risen to 1,200. No one can be certain. But the brief glimpses occasionally revealed of their mentality are chilling indeed.

There are those responsible for the murder of the Federal Attorney General Herr Siegfried Buback, and the banker Herr Juergen Ponto earlier this year. There are those holding Dr. Gerd Dieckhoff, who was kidnapped by the Lufthansa hijacking, clearly working in close co-operation with Arab extremists. One revolutionary document captured many



Police cars (left) escort the ambulance carrying Jan Carl Raspe and Ingrid Moeller to hospital in Stuttgart yesterday morning after they had tried to commit suicide in gaol. Raspe died later in hospital. The man who led the attack on the hijacked airliner in Mogadishu, Ulrich Wegener of the Federal Border Police, is pictured right.



months ago and addressed to the imprisoned members of the Baader-Meinhof gang makes particularly revealing reading. In it those jailed are accused of having just the kind of defects which they claimed to want to eradicate in society. Why, it was asked, did Baader and Meinhof consider themselves with apparent pride as political prisoners when all those jailed in a rotten society were political victims?

The measure of the problem was underlined recently by Herr Georg Sieber, former chief psychologist of the Munich police department and widely regarded as one of the most expert observers of the German terrorist scene. "The Baader-Meinhof gang, he said, had lived and moved relatively openly.

The second and third generation of terrorists did not. West German police made a unique breakthrough—of intellectual terrorism, politically articulated and practised by people of whom, in happier circumstances, the State might perhaps have had cause to be proud.

Over the last few days the patient and determined stand of the Bonn authorities has earned praise at home and admiration abroad. The strain on all those involved, but in particular on Chancellor Helmut Schmidt, was immense. Insofar as the details are known, no false move was made. But the weeks ahead will bring strains of a different kind—within the political parties and in Parliament. Much hangs on how this challenge, too, can be met.

twelve jailed terrorists and others are strongly advocated by the opposition but opposed by Government parties. They include the suggestion that there should be official monitoring of conversations between lawyer and client. The opposition may well insist on these measures in return for supporting the others, and its support may again prove essential if the measures that the Government feels necessary are to become law.

## Relish

It goes almost without saying that pressure for speedy passage will increase sharply should Dr. Schleyer not be returned alive or another terrorist outrage occur.

Many Germans are sick and tired of foreign doubts about them, foreign envious and what often looks suspiciously like foreign hatred. They have had a fair measure of all these this year. From Bonn it sometimes seems as though the Nazi past is raked up most assiduously by Germany's closest allies: that an unhealthy relish is shown in anything that might be interpreted as a step towards German authoritarianism.

The Germans have cause to feel unjustly attacked. They face a terrorist menace which seems to be unique in Europe if not the world. But after that, it is said the reaction of Parliament must still give cause for unease to Germany's friends.

It was a German political scientist who criticised his countrymen's love of synthesis—expressed in Parliament in a search for final answers rather than in action to mediate and regulate. The Federal Republic now seems most to need a period of respite—not a flurry of new lawmaking. Still

## Basic freedoms

The law is now in force (although not wholly effective as the suicides in Stammheim indicate). A handful of Government coalition party deputies withheld their support for the measure, feeling basic freedoms were at stake. As the Government has only a majority of ten, the Bill would not have passed had not the opposition voted en bloc in favour. Those who

## Letters to the Editor

### London as a market

From Mr. J. Cowper.

Sir,—I read (October 15) that Mr. Hattersley is to refer the merger of Smith Bros. and Bisgood Bishop to the Monopolies Commission to assess whether the merger would increase the efficiency of the securities market with benefit to investors. Up to date Mr. Hattersley and his Government have shown considerable concern to the investing public and benefited them by a 2 per cent. stamp duty, a rule requiring them to surrender 25 per cent. of their foreign currency profits and limited their dividends. One would think the investing public are satisfied and cannot wait for another whip-

need to be substantiated by Bond Office statistics and at best they can only be averages—some bondholders will be luckier, others less lucky.

Approaching small bondholders and pensioners another angle: if the average annual yield is 4 per cent. then bondholders with £100 invested could only expect on average to win a £25 price once in six or seven years. A caller was upset because his investment yielded only 1 or 2 per cent. annually as against my assumed (mark the word) average of from 3-4 per cent. On the other hand a correspondent's investment yielded him 7.5 per cent. annually—about double the average—for 16 months. Annual percentage yields plotted against the number of times they occur should fit the usual rigid distribution curve. Mr. Hardwick's yield (September 29) would be near the ridge crest and the yields of my caller and correspondent dotted whether large prizes of £5,000 and more are in fact handed out to bondholders but I could assure him that I did know at least one winner of £5,000.

Apart from our prizeless 14-month interval my wife and I are quite satisfied with our winnings but we still suspect that during that interval our eligible bonds may have been withdrawn from eligibility (see pp. 8, 9 and 11 of the Ernie booklet) and been restored to eligibility only on protest. External checks on the Bond Office and statistics about prize-less intervals would reassure us and investors and holders whose long prize-less intervals ended only on complaint.

May I again ask the Bond Office to publish annually as a minimum the statistics previously listed? One could add the average annual yield in small prizes and the distribution of prize-winning relative to gross of serial numbers with different dates. Furthermore, the current Ernie booklet tells us how Ernie works but we also need urgently a booklet explaining in terms of elementary probability laws the results he achieves. Such a supplementary booklet might largely replace the consolatory letters—probably written by some non-mathematical person—disgraced by bondholders' recent complaint to the Bond Office.

These letters blather about chance but never attempt to explain to complainants in terms of probability laws the reasons for their complaints. The Bond Office may think it is selling the public a pig in a poke and fear that stripping-off the poke might spoil the market.

N. W. Wilson,  
23, Harrey Road, Worthing.

### Easing exchange controls

From Mr. P. Milne.

Sir,—May I comment briefly on your article (October 14) about the case for easing exchange controls?

It is only common sense that any proposal for change should at least accord with a broadly agreed interpretation of the economic phenomena which exchange controls are intended to order to the nation's advantage. Before the discussion on changing exchange controls an adequate study of the workings of the economy's overseas linkages is required. To my mind, no systematic exercise of this kind has been carried out, nor seems in prospect. Until our knowledge of this subject has improved from its very low level it would be sensible to let sleeping dogs lie.

In dwelling upon the restrictions on company investment abroad your article may have

### Order out of disorder

From Professor Sir Nevill Mott, FRS.

Sir,—I would like to thank Mr. David Fishlock for his article (October 15) on my Nobel prize, which gives an entertaining account of the work for which it was awarded. But I must add that the story in doubtful taste said to illustrate my sense of humour must have been made up by someone else, and should not be attributed to me.

Nevill Mott,  
University of Cambridge,  
Department of Physics,  
Cavendish Laboratory,  
Madingley Road, Cambridge.

### Shedding labour

From Mr. I. Jones.

Sir,—In his letter (October 12), Mr. Tillwood describes how he ingeniously measures the way that large wage increases could put many companies "at risk" and cause up to 1.6m. unemployed. While supporting his theory that high wage settlements and unemployment are necessarily linked, I would like to suggest some complexities to his analysis.

By describing a company whose profit has been taken by a wage increase, as being at risk, he underplays the possibility of raising loans to keep the company in business. A company with a record of profit is hardly likely to be pushed into the hands of the receiver because it starts to make a loss. Of course if the company had a bad profit record, the argument is different, and I suspect that Mr. Tillwood would not object greatly to such a marginal company going out of business. Nor, in this case, should the unions be surprised if a large wage claim creates unemployment.

He suggests that the company "at risk" squeezed by unions will be deprived of retained earnings for modernisation and for research and development. This is true, but exaggerates his case. He should not forget that in its depreciation the company generates funds for maintaining its capital stock. Also, where

### Efficient milk marketing

From the Managing Director, Fountain Farming.

Sir,—Once again your correspondent, John Cherrington, (Are Milk Quotas the Only Answer? October 14) trots out the old solution put forward by established farmers to apparent market over-supply.

There is no doubt that there is a temporary over-supply problem within the EEC of milk products and it is quite clear that this is not only a social problem but must remain so quotas or no.

The two certain ways to ensure that inefficient milk production continues in the Common Market are either by imposing quotas or continuing with a too high milk price. Currently the German farmer is receiving approximately 65p per gallon for his milk against the British farmers' 45p.

The imposition of quotas has always proved to be the best way to maintain the status quo and to encourage an ever-increasing level of inefficiency.

Statistics are indeed dangerous figures with which to play but, nevertheless, I believe it is true to say that if all herds of three cows or less were in some way disposed of within the Common Market, then there would, in fact, be a deficiency of milk products within the whole of the Common Market.

Let us encourage a rationalisation of the milk producers and try and encourage the mainland Europeans to market their milk in as an efficient manner as does our own Milk Marketing Board.

Anthony Rosen,  
Cheshamford Farm,  
Hurstbourne Priory,  
Whitchurch, Hants.

### Selection at random

From Mr. D. Roper.

Sir,—The subject of "Ernie" is fascinating and an ever recurring topic. I merely add that I always switch from old to new bonds with, perhaps, minute success.

May I make a new point, one never yet raised? How are the prefix letters allotted? A man buys 2,000 bonds series "ABC" 1-2000; his wife at the same time and place buys five—"ABC" 2001-5? Or does she get a different prefix. Is the allocation indiscriminate or governed by a code of procedure?

If the latter then I advance the theory that Ernie's selection is not random but "selective" random selection. I would like to know that I am wrong!

D. H. Roper,  
Heath End, The Common,  
Chippierfield, Herts.

### Premium bonds

From Mr. N. Wilson.

Sir,—Correspondence in your columns and telephone calls and letters to me following my letter of September 21 indicate that several of the people concerned may well be unlucky because their investments are small: £100 of eligible bonds invested for one year have only 105 average chances in 1,000 of winning a prize and even if held for five years only 426 in 1,000. Of course, these calculated chances

## To-day's Events

- GENERAL: CBI leaders meet Mr. Denis Healey, Chancellor of the Exchequer, to urge caution in any reactionary measures. CBI Council meets afterwards.
- Concorde makes first proving flight from Toulouse to Kennedy Airport, New York.
- British Leyland Board meets, and will consider decision made by yesterday's meeting of shop stewards on its proposed industrial relations package.
- The Queen and Duke of Edinburgh begin two-day visit to the Bahamas.
- Sr. Adolfo Suarez, Spanish Prime Minister, begins two-day visit to London.
- Two-day opening meeting leader, addresses Conservative Party symposium on vandalism, London.
- British Standards Institution annual meeting.
- Lloyd's Register of Shipping casualty return for 1976.
- Daily Express Motorfair opens, Earls Court (until October 30).
- Annual service for seafarers, attended by Lord Mayor and Sheriffs, St. Paul's Cathedral, 5.45 p.m.
- OFFICIAL STATISTICS: Basic rates of wages and normal weekly hours (September). Monthly index of average earnings (August).
- COMPANY RESULTS: British Home Stores (half-year), Darway Day (half-year), Dunbeacomb-Marx (half-year), Duport (half-year), Rugby Portland Cement (half-year).
- COMPANY MEETINGS: Fisher (Albert), Blackpool, 11.30. Gresham House Estate, 24, Austin Friars, E.C. 4, 12. Plico Holdings, Winchester House, E.C. 4, 12. West Liverpool Steam Navigation, Hartlepool, 12.15.
- OPERA: English National Opera production of The Tales of Hoffmann, Coliseum Theatre, W.C.2, 7.30 p.m.
- BALLET: Gala performance by Royal Ballet of The Sleeping Beauty, Covent Garden, W.C.2, 8 p.m.

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<input type="checkbox"/>		Escort (1098-1599cc)	<input type="checkbox"/>		Fiesta (957-1300cc)
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William Baines  
least £7.50

# Marks & Spencer up £11m F. Summer at £0.5m: mid term

MARKS & SPENCER's 1977-78 pre-tax profits rose to £11m from £1.5m in the 26 weeks ended October 1, 1977. This represents an increase of 27.5 per cent on the £8.5m profit for the same period in 1976. The increase is due to a 17.9 per cent rise in sales to £579.1m and a 10.5 per cent increase in operating margins. The company's trading conditions are expected to improve in the second half of the year as the new stores in Paris and Brussels begin to trade.

The interim dividend is expected to be 1.7p net, an increase from 1.5p last year. The company is also expected to pay a special dividend of 0.3p in 1977.

## BOARD MEETINGS

The following companies have announced their Board meetings for the next few weeks:

British Overseas Airways	Oct. 21
British Telecom	Oct. 21
British Airways	Oct. 21
British Airways	Oct. 21
British Airways	Oct. 21

## FUTURE DATES

Downs Surgical	Oct. 21
Imperial Cold Storage	Oct. 21
London Brick	Oct. 21
Norman Electric	Oct. 21
Press (Whitson)	Oct. 21
Wired and Plastic Products	Oct. 21

These exclude substantial buying by foreign tourists, which are estimated at not less than £50m. At the beginning of October the new store in Kensington and extensions in Brent, Cross and Birmingham were opened. The group's range of family books is selling well and a trial range of china and glassware has been introduced.

Referring to the integration in Canada of businesses of two of the operating divisions into one Marks and Spencer division, the directors point out that not all of the conversions have been successful. While sales in enclosed shopping malls and certain major shopping streets of the largest towns are making excellent progress, they are poor at the older free-standing downtown stores where modern malls have recently been opened nearby.

The two other trading divisions in the Canadian group—Alliards and Peoples Stores—continue to be profitable and are making satisfactory progress.

Since the end of July the group has opened five new stores in the Marks and Spencer division and all are trading successfully. The group is seeking new sites in established shopping malls and additional footage in those where present stores are too small.

In Europe profits and turnover of the stores in Paris and Brussels are increasing. The stores in Lyon however, continue to incur losses. Following the substantial devaluation of sterling during the course of last year, results of European subsidiaries had the benefit of large exchange profits which did not occur to the same extent this year.

Members are told that expansion in Europe will be concentrated on the Paris area where work has commenced on more than doubling the size of stores in Boulevard Haussmann. The new stores in the outskirts of Paris opens in November.

See Lex

## Scholes in good position

Mr. G. R. C. McDowell, chairman of Scholes, says the company's electrical switch and fusegear manufacturers are in a strong position. The company's expansion programme is progressing well and the company is expected to increase its production of electrical switchgear in 1978.

Mr. McDowell says that an increase in sales volume was achieved in both home and export markets, and despite a sluggish start to exports, shipments of goods to the U.K. consumer market reached their forecast level.

The company has continued to try to widen its distribution network in Nigeria, which the chairman says is now almost completed. Even at this stage there has been involvement in commercial and a substantial improvement in

industrial markets, expanding its base into wider fields.

As reported on September 21 pre-tax profits for the year to June 30 rose from £1.5m to £11m and the dividend is lifted to 16.58p (14.85p) with a net final of 12.58p. On a CGA basis profits would have been £1.8m (£1.07m).

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The company has continued to try to widen its distribution network in Nigeria, which the chairman says is now almost completed. Even at this stage there has been involvement in commercial and a substantial improvement in

exports to this area. The full benefits of the investment will be long term, he adds, and he hopes it will put the company in a strong position to benefit next year from the growing demand from this export market.

Auditors qualify the accounts subject to the fact that the company has made no attempt to assess the value of the company's land and buildings on an adjusted basis in the absence of a professional valuation.

Net dividend is 16.58p (£1.07m).

## Electra Trust tops £2m. at halftime

Table earnings of Electra Investment Trust increased from £1,803,000 to £2,003,000 in the six months to September 30, 1977, from gross revenue of £2,329,000 against £2,082,000 last time.

Tax takes £776,000 (£707,000), leaving net earnings at £1,227,000 compared with £1.1m. Net assets of the trust stood at £70.82m (£69.82m) on September 30, representing 144p per 25p unit (124p). Total earnings last year were a record £284m before tax.

## Willows Francis to progress

FIRST THREE months trading of Willows Francis in the current year indicates continued progress, says Mr. A. J. Cornforth the chairman, and he looks forward to another good year.

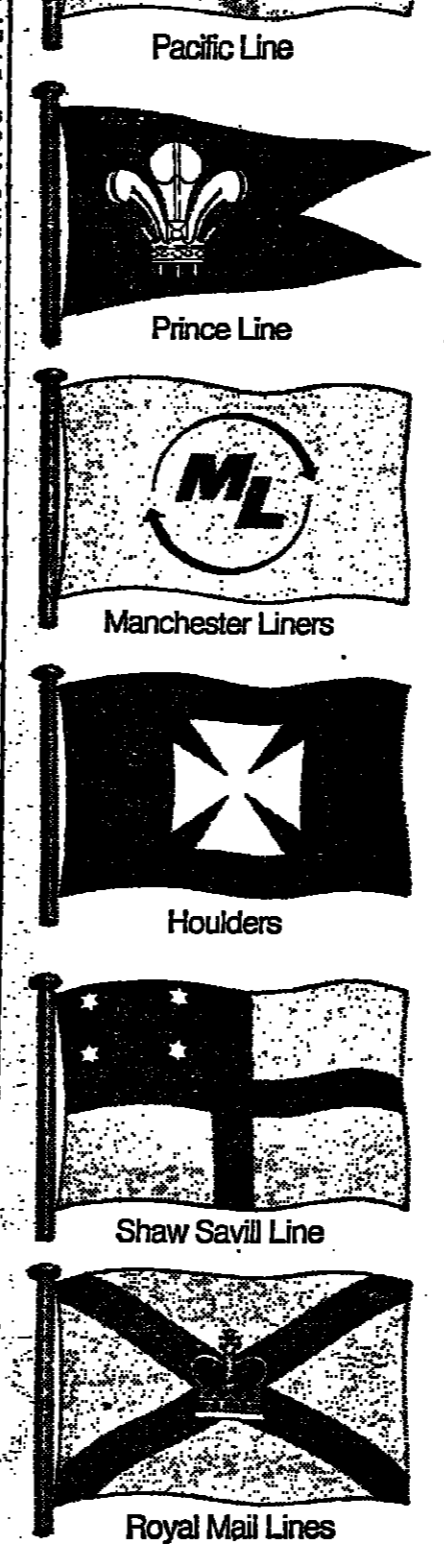
As reported on September 8 pre-tax profits of this pharmaceutical products manufacturer rose from £230,860 to £343,191. The dividend is lifted to 2.5379p (2.276p) with a net final of 1.9648p per 20p share.

The chairman says that during the year the company concentrated on promoting its most profitable lines, improving the quality of products, premises and service. Exports increased by nearly 25 per cent to £530,284, and were augmented by production in Johannesburg, Paris, Bombay and Karachi. Another production centre is expected to be established in Medellin, Colombia, during the coming year, he adds.

The veterinary division continued to perform well, Mr. Cornforth says, and the chemist division again made a useful contribution to the results.

Working capital increased by £247,025 (£124,158). Meeting Carlton Tower Hotel, Cadogan Place, S.W., November 11, at noon.

# Furness Withy Group



## Interim Results For the half-year to 30 June 1977

	Unaudited - for half-years ended		Audited - for year ended 31 December 1976
	30 June 1977	30 June 1976	
Turnover	£96.3m	£86.1m	£168.4m
Profit before tax and extraordinary items	£13.3m	£11.4m	£22.6m
Earnings per £1 ordinary stock	31.49p	30.93p	55.67p

The unaudited profit before tax of the first half-year of 1977, including an improvement in profits from associated companies and sales of ships, is £1.9m more than the corresponding period of the previous year.

With the shipping industry in such a depressed state, we shall do well if the results of the full year equal those of 1976.

The interim dividend now declared of 3.50p per £1 ordinary stock compares with 3.025p last year.

## Furness Withy Group

One of the big names in British Shipping  
Furness Withy & Co Ltd, 105 Fenchurch Street, London EC3M 5JH

## COUNTER-INFLATION ACT 1973

The Treasury have given consent to the declaration by the following companies of dividends of the total amounts specified for the financial years ending on the specified dates:

Company	Address	Dividend	Rate
Asperanza Trade and Transport Ltd.	London EC3	£88,427	31.377
IAH Ltd.	London SW1	£1,173,403	31.377
Alfred Colloids Group Ltd.	Bradford	£98,303	2.477
Wofmark International Ltd.	London W12	£283,077	31.1276
William Cook & Sons (Sheffield) Ltd.	Sheffield	£59,032	31.377
Second City Properties Ltd.	Birmingham	£16,247	30.477
Christy Bros Ltd.	Chelmsford	£24,242	31.377
Hillards Ltd.	Cleckheaton	£389,166	30.477
Chambers and Fergus Ltd.	Hull	£13,253	2.777
Harry Vincent Ltd.	Halesowen	£101,651	25.677
Armstrong Equipment Ltd.	North Ferriby	£1,441,846	3.777
Arthur Bell & Sons Ltd.	Pertth	£1,110,824	30.677
Jalgely Ltd.	London W1	£5,344,930	30.677
The H Goldman Group Ltd.	London NW2	£6,970	31.1077
Talam Sleigh & Cheston Ltd.	Birmingham	£12,306	30.977
Astra Industrial Group Ltd.	Walsall	£197,349	30.477
The Bolton Textile Mill Co Ltd.	London EC1	£86,711	30.477
Edminster Ltd.	London SW15	£55,000	30.677
EMI Ltd.	London W1	£14,636,383	30.677
Belance Knitwear Group Ltd.	Hull	£255,262	30.477

Published by the Treasury as required by the above Act

This announcement is neither an offer to sell nor a solicitation of an offer to buy any of these securities. The offering is made only by the Prospectus.

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Cumulative Preferred Stock, \$2.125 Series  
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Price \$25 per Share

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- Bache Halsey Stuart Shields Incorporated
- Merrill Lynch, Pierce, Fenner & Smith Incorporated
- The First Boston Corporation
- Dillon, Read & Co. Inc.
- Blyth Eastman Dillon & Co. Incorporated
- Goldman, Sachs & Co.
- Hornblower, Weeks, Noyes & Trask Incorporated
- Drexel Burnham Lambert Incorporated
- Kidder, Peabody & Co. Incorporated
- Kuhn Loeb & Co. Incorporated
- Lehman Brothers Incorporated
- E. F. Hutton & Company Inc.
- Paine, Webber, Jackson & Curtis Incorporated
- Reynolds Securities Inc.
- Loeb Rhoades & Co. Inc.
- Smith Barney, Harris Upham & Co. Incorporated
- Wertheim & Co., Inc.
- Shearson Hayden Stone Inc.
- Dean Witter & Co. Incorporated

# Brooke Bond Liebig

## Results for the financial year ended 30th June 1977

	1977 £000	1976 £000
Sales outside the group	769,154	591,465
Group trading profit	49,813	24,581
Taxation	19,524	12,865
Profit before extraordinary items	28,370	12,001
Dividends paid and proposed		
Interim of 0-75625p net (1976 0-6875p)	1,556	1,414
Final of 2-00757p net (1976 1-787p)	5,162	3,676
	6,718	5,090

The total gross dividend for the year is equal to a rate of 4-18761p per share as forecast by the board at the time of the rights issue in April, an increase of 10% over last year.

Earnings per share on the net basis 12.96p 6.17p

Annual Report  
The annual report will be posted to shareholders on 11th November, 1977 together with the notice of the Annual General Meeting to be held on 9th December, 1977 at The London Press Centre, 76 Shoe Lane, London EC4.

To: The Secretary, Brooks Bond Liebig Ltd.,  
Thames House, Queen Street Place, London EC4R 1DH

Please send me a copy of the 1977 Annual Report as soon as it becomes available:

Name \_\_\_\_\_ Company (if applicable) \_\_\_\_\_

Address \_\_\_\_\_

## Brooke Bond Liebig





BIDS AND DEALS

Ever Ready selling Mallory interest

BY CHRISTINE MOIR

The Ever Ready battery group sold its 23 per cent share in Ever Ready Batteries Ltd to the U.S. parent P. R. Mallory Indianapolis in a deal worth \$10m, which will leave both companies free to operate independently in the fast-growing market for high-performance batteries.

He also added that the group believes it is "pretty sure it can shake up the profits lost through the sale of this stake to be by way of further physical expansion as Mr. Fields admitted that "with capacity close to its limit we are running hard to match overseas demand for zinc batteries."

Ever Ready is expected to publish its profit figures for the six months to the end of August on Friday.

REXCO' cuts LASMO holding

National Carbonising Company, the "Rexco" smokeless fuel producer, has sold 1,214,222 shares, 57 per cent of its total holding, in London and Scottish Marine Oil Company to reduce its borrowings and improve liquidity. Net proceeds of the sale, realised at £2.01m, against a book value of the group's year-end—March 31—of £1.22m.

In the last balance sheet there were £18m of net short-term borrowings and £1.53m of medium-term loans, accounting for nearly a half of shareholders' funds. Interest charges had risen from £400,000 to £480,000, swallowed around two-thirds of the trading profit of £711,000. The group estimates that in the current year the savings will amount to £65,000 on interest costs and in a full financial year £150,000.

Mr. D. F. G. Stroud, chief executive, said that the group had intended to divest itself of this holding as the best asset to sell. "The rise in the value of LASMO shares over the past twelve months has meant that the value of the holding is much the same as in the last balance sheet," he added. The group retains 2,300,000 shares in LASMO (about 6.8 per cent) and has no intention of reducing this holding further.

AF sale to Ross Foods

In an important strategic move, Associated Fisheries is negotiating the sale of a large proportion of its food processing and distribution divisions to Ross Foods, a subsidiary of the Imperial Group. The consideration has not been announced but could be over £4m. The Imperial Group but very significant for Associated Fisheries which has a total stock market capitalisation of £8.8m. The deal will give Ross Foods a 1976 food processing and distribution having bigger sales than other divisions of Associated Fisheries having overtake in that area. But from turnover of £7m, the trading profit was £1.06m, and it is believed that parts being sold, which account for a little under a quarter of turnover, are among the most profitable. In 1975, they usually made a loss.

The Imperial Group is one of the biggest food processors and distributors in the country and will be able to make more efficient use of the plants through economies of scale. In Stock Market, some speculators were apparently hoping for a scale takeover bid by Imperial. The shares of AF rose to 55p yesterday against 45p over the weekend on this hope. When the actual announcement came, the shares fell back to 45p.

ALLIED INVESTS. Allied Investments is to buy back a private company manufacturing high quality meats, types and sausages.

KIMPHOR REJECTS. The basic consideration is payable as to £10,000 cash and the use of 40,550 Ordinary shares in the bid, both on completion, with a payment of a further £10,000 in instalments over five years from November 1, 1977. At present share prices the deal has a total value of around £21,000.

CRANE FRUEHAUF Shareholders in Crane Fruehauf urged by Mr. Angus Murray, a group's chairman, to reject

Deundi turns down 110p

HINDI TURNS DOWN 110p. The highest bid so far in Zerite's one-man-auction for the company's shares has been turned down by the Board as being inadequate.

The bid of 110p per share which currently on the table followed earlier bids of 75p and 95p. In cases the bidder has been Zerite, a private investment company whose director is Mr. Norman and Mr. Richard Roblow also directors of the merchant N. M. Rothschild and Sons. Through this technique of buying in the market and then creating the value of the bid to meet the price last dealt at it must do under the takeover (Zerite) has been able to pick up about an extra 7 per cent. Deundi and now owns approximately 40 per cent of the company.

Understandably, the Board of Zerite is now strongly recommending to shareholders not to sell their shares in the market until they hear further from the Board.

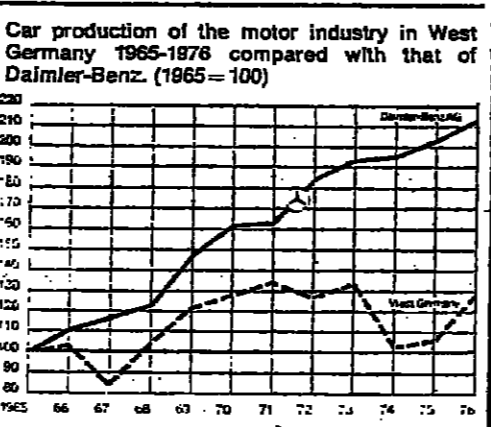
comment be Board of Deundi has not been very quick in mounting a defence against Zerite. The horse has been out of the stable and still there has been little attempt to lose the door. Now there is no reason for shareholders to sell in the market or accept the offer at least until the formal offer document from Zerite and Deundi's formal rejection are received. The revised bid still looks on the low side and there may be other interested parties in the sidelines. Deundi's shares closed last night at 115p, indicating that the market does not think the matter will end here.

SHARE STAKES Allied Insulators Britannic Assurance holds 950,000 Ordinary shares (10.55 per cent). Roberts, Adlard—Eagle Star has

Efficiency today safeguards tomorrow's growth

1976 was a highly successful year for Daimler-Benz with all sectors of the Company's activities making their contribution.

World sales rose DM 2.5 bn on the previous year to DM 23.5 bn - an increase of 12%. Daimler-Benz thus continued the dynamic upward trend which it has managed to sustain even during the difficult period through which the car industry has been passing in recent years.



This success, past and present, can be explained by the careful balance of the overall policy.

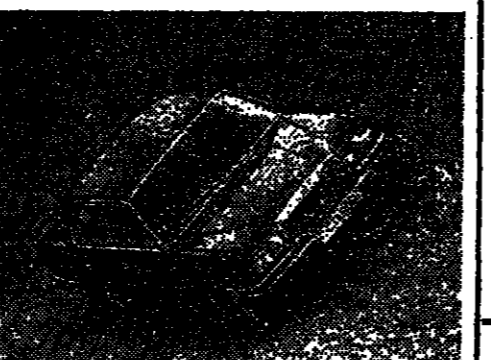
The year's Highlights

Expansion of the Mercedes-Benz range of cars from economical diesel-powered vehicles to exclusive limousines.

The chief event of the year was the introduction of an exceptionally successful new range of models - the 200 to 280 E series which gained new customers. One third of those buying one of this new range had previously driven a different make.

Despite having to cope with a re-organisation of the production programme affecting 80% of car output, 1976 sales in this sector were up 18% or DM 1.5 bn to DM 9.4 bn.

1976 saw the output of the 280/280E models more than double to 35,000, while S class models from the 280 S upwards further improved their leading position in the market.



Encouraging trends in sales of Mercedes-Benz commercial vehicles.

Sales of commercial vehicles were up DM 0.7 bn to DM 9.3 bn.

As Europe's largest manufacturer of commercial vehicles, Daimler-Benz has gained for itself a very strong position on the world market with its new generation of trucks. The high sales volume achieved enabled full advantage to be taken of large scale production.

Start of long-term investment programme.

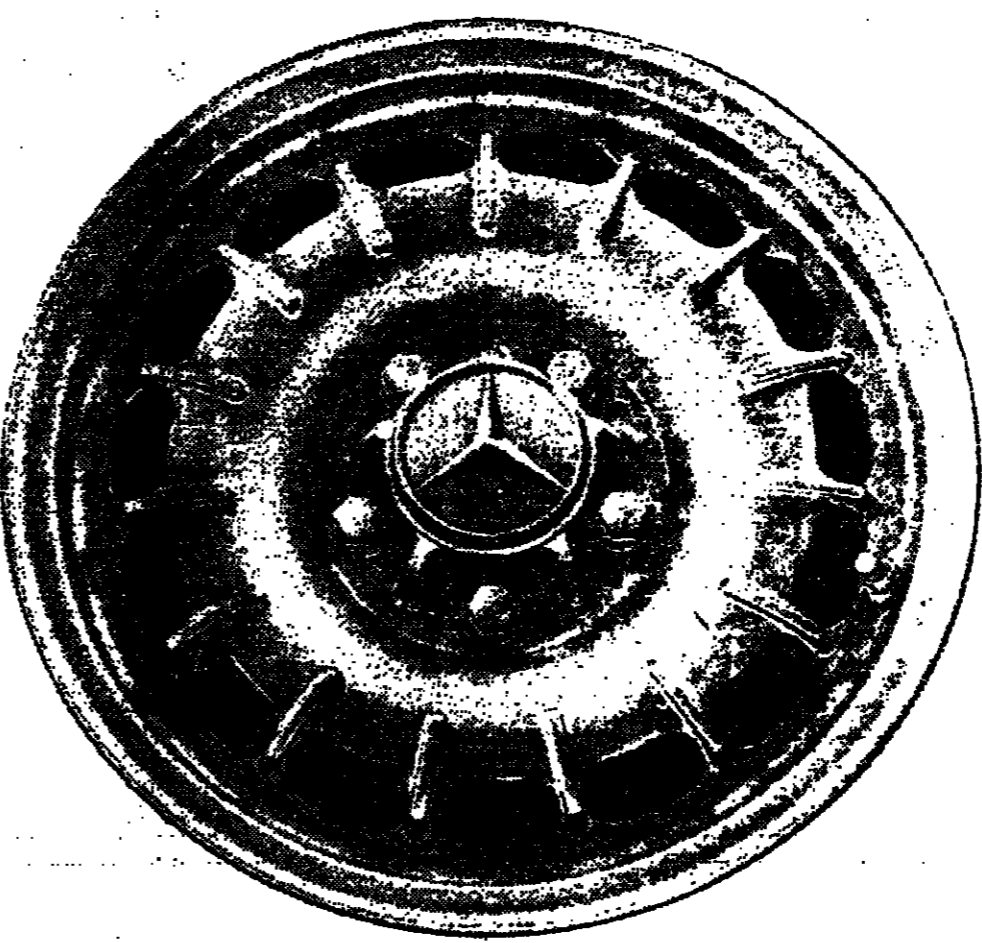
Investment for the 5 years from 1977 to 1981 will total DM 6 bn - dynamic spending which clearly reflects the Company's sense of social responsibility. This commitment has already had favourable repercussions on the business of the company's suppliers, and on the capital goods industry generally.

Risks spread by expanding exports.

Continuous expansion of the Company's presence is undertaken in almost all markets. This intensive activity in the export field is an important factor in the Company's policy of risk-spreading. Foreign sales rose 11% to DM 13.1 bn thus accounting for 55% of group sales.

Continuous technological improvement.

Continuous development of company and model policy - avoiding exaggeration and change for change's sake - and systematic research and development, result in top quality products outstanding for their safety, economy and long life. Again and again, Mercedes-Benz cars have received special recognition from independent observers of the motor industry scene. Witness such awards as



The Daimler-Benz approach:

- Continuity**  
Steady growth, well-planned financial provision and product development - all with an eye to the long term - mean continuity in terms of both customer satisfaction and of security for employees and shareholders alike.
- World-wide presence**  
Sales are world-wide - so risks are well spread.
- Wide product range**  
The spread of vehicle types produced is wide - ranging from economical four-cylinder cars up to technically advanced and prestigious cars like the 450 SEL 6.9. Commercial vehicles range from light vans to heavy trucks, city buses and touring coaches to UNIMOGs and tractors.
- Technological leadership**  
The high standard of design and manufacture and emphasis on research and development results in products which hold their value, use energy sparingly, are safe and environmentally acceptable.
- Economic responsibility**  
A high investment programme, designed to secure existing jobs and trainee places as well as creating new ones, coupled with a policy of price restraint, reflects a policy of social responsibility.

the German "Commonsense Automobile" and "Best Limousine in the World" and the American "Import Car of the Year".

Research and Development has produced many technical advances. Projects included the testing at continuous high speed of a supercharged diesel engine. The C111 test vehicle gained 16 class records for diesel engines, and three outright world land speed records - over 5,000 miles, 10,000 miles and 10,000 kilometres - records which were previously always held by highly sophisticated petrol engine cars.

Solid financial foundation.

Net income for the year rose in 1976 from DM 310m to DM 392m of which DM 167m was allocated to reserves. To broaden further the Company's capital base, the AGM voted in favour of a capital increase of DM 170m based on a one-for-seven issue at par. The amount set aside for dividends is DM 225m, which compares with DM 202m in the previous year.

Daimler-Benz shares are now widely held. Including shareholders in Mercedes-Benz Automobile-Holding, they number more than 100,000, of whom 15,000 are company employees.



The outlook.

The Company's progress is encouraging. In the current year car production will, for the first time ever, exceed 400,000 units, thus further strengthening the Company's ability to supply the market. Commercial vehicle production will be roughly on a par with last year.

Daimler-Benz recognized at an early stage that demand for motor vehicles was subject to considerable fluctuation and took this fact into account in its planning. The result has been above-average growth in the past (see graph). Since efficiency today safeguards tomorrow's growth, a sound basis has been created for the Company's future expansion.

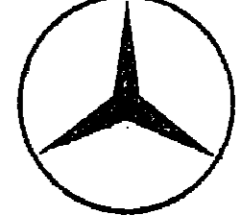
Daimler-Benz AG Balance Sheet at December 31, 1976 and 1975

Assets	Dec. 31, 1976		Dec. 31, 1975	
	DM	In Thousand	DM	In Thousand
Current assets				
Cash	780,413,480		507,539	
Marketable securities, at cost or market whichever is lower	486,480,648		88,085	
Accounts and notes receivable (less allowances)	1,119,558,247		1,036,870	
Accounts and notes receivable from affiliated companies	806,522,826		682,341	
Inventories	1,659,594,657		1,721,771	
Other current assets	731,909,959		316,541	
Prepaid expenses and deferred charges	2,495,057		1,301	
Total current assets	5,566,894,872		4,364,448	
Investment and miscellaneous assets				
Investments in non-consolidated subsidiaries, at cost less reduction in carrying value	380,752,589		389,640	
Other investments, at cost or market whichever is lower	92,556,276		92,560	
Long-term receivables due after four years	1,008,655		1,252	
Total investments and miscellaneous assets	474,317,520		483,452	
Real estate, machinery and equipment				
At cost less accumulated depreciation	1,785,959,389		1,884,040	
Total assets	7,828,171,781		6,711,940	
Liabilities, Reserves, and Stockholders' Equity				
Current liabilities				
Accounts, drafts, loans, taxes payable, and sundry accrued items*	3,218,724,916		2,546,055	
Accounts payable to affiliated companies	20,481,011		40,172	
Total current liabilities	3,239,205,927		2,586,227	
Long-term liabilities				
(of which owing to Daimler-Benz Provident Fund GmbH, Stuttgart, DM 348.4 million in 1976 and DM 318.8 million in 1975)	598,286,385		591,181	
Reserves				
Reserve for pension liability	827,732,237		416,518	
Other reserves	786,245,280		721,531	
Reserve for investments in developing countries etc.	74,910,063		71,799	
Total reserves	1,490,887,580		1,209,848	
Stockholders' equity				
Capital stock:				
Preferred stock	1,921,500		1,921	
Common stock of DM 50 par value, 23,743,290 shares	1,187,154,500		1,187,165	
	1,189,076,000		1,189,086	
Net income retained for use in the business	1,331,921,840		1,141,478	
	2,521,007,840		2,330,564	
Less - Treasury stock for employee stock purchase plan, at lower of cost or average preferred price to employees (1976: 100,542 shares; 1975: 28,930 shares)	21,217,951		5,890	
Total stockholders' equity	2,499,789,889		2,324,674	
Total liabilities, reserves, and stockholders' equity	7,828,171,781		6,711,940	

Daimler-Benz AG Statement of Income

	Year 1976		Year 1975	
	DM	In Thousand	DM	In Thousand
Net sales	18,766,455,124		18,650,579	
Dividends and interest income from subsidiary and affiliated companies	30,431,083		23,426	
Interest income less interest expense	131,203,893		90,861	
Other income less deductions	106,200,186		59,257	
Total	18,034,290,286		16,824,223	
Less				
Cost of sales and other operating charges including selling, general and administrative expenses, exclusive of items listed below	16,477,104,670		14,815,366	
Depreciation and obsolescence of real estate, machinery and equipment	785,404,755		785,850	
Taxes on income, trade and property	1,378,061,641		911,418	
Total	18,640,571,066		16,512,634	
Net income for the year	393,719,220		311,589	
Dividends on preferred stocks	64,050		64	
Amount earned on common	389,655,170		311,525	
Number of shares of common stock at DM 50 par value (exclusive of treasury stock)	23,642,748		23,714,360	
Amount earned per share of common stock	DM 16.65		DM 13.14	

Copies of the full annual report and audited accounts in English can be obtained from Daimler-Benz AG 7000, Stuttgart.





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INTERNATIONAL FINANCIAL AND COMPANY NEWS

Jardine profit moving up

BY DANIEL NELSON
SPITE A DISAPPOINTING performance of the previous year, and for manufacturing interests Jardine Davies missed its third depressed earnings as a quarterly dividend and said it...

R8m. from packaging deal for Reed Corp.

HONG KONG, Oct. 18. Holdings but the company was well placed to take advantage of any improvement in conditions there. In Britain there had been a further major development in insurance broking activities with the acquisition of brokers...

JAPANESE BUSINESS GROUPS Dai-Ichi 'families' close ranks

BY CHARLES SMITH IN TOKYO
NEARLY EVERYONE who has heard of Japan has heard of Mitsubishi, Mitsu and Sumitomo, the three giant business groups which dominated pre-war...

MEDIUM-TERM CREDITS Attractive terms for Brazil

BY FRANCIS GHILES
LIZIAN BORROWERS are owned by the Government, and to their policy of not "kicking" the market: they are unlike most other Third World borrowers...

Hang Lung ups profit 42%

HONG KONG, Oct. 18. HANG LUNG Development pushed up profits 42 per cent to make a group net figure of HK\$64m. for the year ended June 30, compared with HK\$45.08m. in 1976...

Anglovaal Group Mining companies' reports - Quarter ended 30 September 1977

All companies mentioned are incorporated in the Republic of South Africa. All financial figures for the quarter and progressive figures for the current year to date, including those of Loraine Gold Mines, Limited, are unaudited.

Japanese retail trends

FINANCIAL TIMES REPORTER
TRADING results emerged today from two of Japan's retailers. The first, the parent of the chain store Dai-ichi, reported a 11 per cent increase in its parent's after-tax profits by 11 per cent in the six months ended...

ANGLOVAAL GROUP

Mining companies' reports - Quarter ended 30 September 1977

Prieska Copper Mines (Proprietary) Ltd. Issued capital 54 000 000 shares of 50 cents each. Operating results, Financial results, Development.

Hartebeestfontein Gold Mining Co. Ltd. Issued capital 11 200 000 shares of R1 each. Planned operations for year ending 30 June 1978. Operating results, Financial results, Development.

Consolidated Murchison Ltd. - continued. Financial. The revenue from the sale of antimony concentrates brought into account each quarter is based on actual payments received...

Loraine Gold Mines, Ltd. Issued capital 15 366 996 shares of R1 each. Planned operations for year ending 30 September 1978. Operating results, Financial results, Development.

LECTED EURODOLLAR BOND PRICES MID-DAY INDICATIONS

Table listing various Eurodollar bond prices including Australia, Canada, New Zealand, and other international bonds.

Eastern Transvaal Consolidated Mines, Ltd.

Issued capital 4 316 876 shares of 50 cents each. Planned operations for year ending 30 June 1978. Operating results, Financial results, Development.

Consolidated Murchison Ltd.

Issued capital 4 180 000 shares of 10 cents each. Operating results, Financial results, Development.

Consolidated Murchison Ltd. - continued

Operating results, Financial results, Development. The revenue from the sale of antimony concentrates brought into account each quarter is based on actual payments received...

INTERNATIONAL FINANCIAL AND COMPANY NEWS

AMERICAN COMPANIES

Fresh offer for CCLA

BY STEWART FLEMING

NEW YORK, Oct. 18.

THE TAKEOVER battle for Coca-Cola Bottling Company of Los Angeles has taken a new turn with an announcement from Northwest Industries that it intends to make a \$200m. tender offer.

CCLA is one of hundreds of widely diversified conglomerate companies with interests in chemicals, steel and consumer goods such as clothes. It also distributes "Citty Sark" Scotch whisky.

CCLA's sales last year were \$165m. and its earnings were \$11m. It fought to block MCA's bid from New York, which was quickly approved the proposed \$40 a share offer from Northwest with the board agreeing to recommend the offer to shareholders.

Celanese results disappoint

CELANESE CORPORATION net profit down on the same period last year at \$55m. or \$3.69 a share, against \$60m. or \$4.05 a share, in the same period last year.

Net profit was \$55m. compared with \$60m. in the same period last year. Net profit per share was \$3.69 compared with \$4.05.

Revenue was \$2,315.5m. compared with \$2,285.4m. in the same period last year. Revenue per share was \$14.44 compared with \$13.99.

Honeywell Inc. slowdown

THE RISE in income at Honeywell Inc. slowed down in the third quarter of this year.

Operating net income for the quarter totalled \$33.7m., reports Reuter from New York, compared with \$35.8m. in the comparable period.

For the second quarter of this year, the computer group reported a 60 per cent. jump in net income to \$37.8m. before extraordinary income.

Income rises at Chase

CHASE MANHATTAN Corporation, which today reported a 32 per cent. gain in net income to \$31.5m. from \$23.9m. a year ago, attributed the gain to an increase in overseas net interest income.

Revenue was \$189.7m. compared with \$174.4m. in the same period last year. Revenue per share was \$1.10 compared with \$1.03.

Net profit was \$31.5m. compared with \$23.9m. in the same period last year. Net profit per share was \$1.93 compared with \$1.48.

Table for UNITED TECHNOLOGIES showing third quarter 1977 and 1976 performance metrics like Revenue, Net profits, and Net per share.

Table for SHEARSON HAYDEN STONE showing third quarter 1977 and 1976 performance metrics.

Table for MERRILL LYNCH & CO. showing third quarter 1977 and 1976 performance metrics.

Table for MOTOROLA INC. showing third quarter 1977 and 1976 performance metrics.

Table for BUDD COMPANY showing third quarter 1977 and 1976 performance metrics.

Table for HOUSTON INDUSTRIES showing fourth quarter 1976-77 and 1975-76 performance metrics.

Table for BURLINGTON NORTHERN showing third quarter 1977 and 1976 performance metrics.

Table for COOK INDUSTRIES showing first quarter 1977-78 and 1976-77 performance metrics.

Table for GEORGIA PACIFIC showing third quarter 1977 and 1976 performance metrics.

Table for AMERICAN CYANAMID showing third quarter 1977 and 1976 performance metrics.

Table for GOULD INC. showing third quarter 1977 and 1976 performance metrics.

Table for CITICORP showing third quarter 1977 and 1976 performance metrics.

Table for ELI LILLY & CO. showing third quarter 1977 and 1976 performance metrics.

Table for MCGRAW-HILL INC. showing third quarter 1977 and 1976 performance metrics.

Table for AMERICAN HOME PRODUCTS showing third quarter 1977 and 1976 performance metrics.

Table for ST. REGIS PAPER CO. showing third quarter 1977 and 1976 performance metrics.

Table for PFIZER showing third quarter 1977 and 1976 performance metrics.

Table for BANCAL TRI-STATE CORP. showing third quarter 1977 and 1976 performance metrics.

BANKERS TRUST NY CORP.

Table for BANKERS TRUST NY CORP. showing third quarter 1977 and 1976 performance metrics.

FIRST CHICAGO CORP.

Table for FIRST CHICAGO CORP. showing third quarter 1977 and 1976 performance metrics.

CONTINENTAL ILLINOIS

Table for CONTINENTAL ILLINOIS showing third quarter 1977 and 1976 performance metrics.

MANUFACT. HANOVER CORP.

Table for MANUFACT. HANOVER CORP. showing third quarter 1977 and 1976 performance metrics.

FIRST PENNSYLVANIA CORP.

Table for FIRST PENNSYLVANIA CORP. showing third quarter 1977 and 1976 performance metrics.

DETROIT BANK CORP.

Table for DETROIT BANK CORP. showing third quarter 1977 and 1976 performance metrics.

TIME INC.

Table for TIME INC. showing third quarter 1977 and 1976 performance metrics.

MEAD CORPORATION

Table for MEAD CORPORATION showing third quarter 1977 and 1976 performance metrics.

COLT INDUSTRIES

Table for COLT INDUSTRIES showing third quarter 1977 and 1976 performance metrics.

PPG INDUSTRIES

Table for PPG INDUSTRIES showing third quarter 1977 and 1976 performance metrics.

OWENS-ILLINOIS

Table for OWENS-ILLINOIS showing third quarter 1977 and 1976 performance metrics.

FRENCH COMPANIES

Electronics disposal by Ferrodo

BY DAVID CURRY

PARIS, Oct. 18.

FEROODO, the leading French motor components manufacturer in a sector still heavily fragmented, has decided to dispose of its activities in the industrial electronics field because it foresees trouble for its subsidiaries stemming from the narrowness of the market for their products.

The Compagnie Electro Mechanique is taking over the activities of the Cyberneca division and will purchase a majority stake in Cogie, a subsidiary of Ferrodo. The former makes thyristor speed regulatory and power regulation equipment while Cogie makes semi-conductors.

M. Andre Boisson, the group chairman, has produced an optimistic half-year report with a group turnover reaching Frs.22bn., which is 13 per cent to the good, and parent company turnover some 9 per cent ahead of Frs.994m.

which counts almost 100 operations. It is proposing to offer two Printemps shares for three to five Prismatic shares. Printemps has been attracting attention recently because, determined to cut out loss-making stores and out-of-town activities, it decided to shut down completely a three-year-old store at the Cretail new town to cause the population was some 150,000 short of the figures retained by the planners at the time the store was conceived.

Recovery by retailers

THE RECOVERY programme at Les Nouvelles Galeries, which views with Printemps the site of France's biggest stores group, has started to show positive results. The half-year situation at all three of the main group operations—the Nouvelles Galeries chain of provincial stores and Emporia, 10 stores in the Bazar de l'Hotel de Ville chain which serves essentially the Paris suburbs, and the 64 popular stores under the Uniprix sign—

At group level things are looking much better for Les Nouvelles Galeries, which since last summer has just announced a half provisional loss of Frs.48.5m., which is more than the same period of last year. At group level things are looking much better for Les Nouvelles Galeries, which since last summer has just announced a half provisional loss of Frs.48.5m., which is more than the same period of last year.

Plastics plan

THREE FRENCH companies have agreed to group together their polyethylene extrusion activities. They are Silvallac, a subsidiary of St. Gobain-Ponta-Mousson via La Cellulose du Pin, Les Etablissements Manducher, and the French subsidiary of CIP Chemie, which is itself in the State-owned Charbonnages de France orbit, reports David Curry. Silvallac will acquire certain of the assets of the other two companies and will lengthen its name to Silvallac S.M.S. Ownership will be divided 64 per cent for La Cellulose and 18 per cent for the other two shareholders.

New bank for the United Arab Emirates

BY RICHARD JOHNS

DESPITE a moratorium on the opening of new financial institutions yet another bank has been announced in the United Arab Emirates—the 55th so far to be licensed to undertake full commercial operations.

Founding shareholders are the Governments of Ras al Khaimah and Abu Dhabi, Kuwaiti investors, the Bank of Oman, private investors in Ras al Khaimah as well as Hill Samuel which has a 10 per cent stake and is entering into a five-year management contract. The bank will have a issued share capital of \$100m. (\$125m.).

Scott, managing-director of the UAE Currency Board, on May 30. Towards the end of last month Mr. Scott for the UAE Currency Board, acting as a separate committee with Mr. F. H. Brittain, the deputy managing-director, acting as chief executive. The board of directors is understood not to have met for several months but was led by Lazard Brothers.

Mr. Brian Quick, director of HIL Samuel, said yesterday that the National Bank of Khaimah should provide a good vehicle for the channelling of development funds through Ras al Khaimah Sheikh Khalid, Crown Prince and Deputy Ruler of Ras al Khaimah, is the chairman designate of the new bank.

At the end of last year there were 50 banks operating in the UAE, but about 90 per cent of deposits totalling 2,480m. dirhams (\$950m.) were held by a dozen banks controlled by a dozen banks.

The moratorium on any more opening was effectively breached by the Ruler of Dubai who authorised two new banks in February. Subsequently, President Zaid put his name to the UAE Currency Board announcement reasserting the ban on any more approvals and also announcing new measures to control credit.

Now, however, President Zaid has apparently given his permission for another bank in which his own state, Abu Dhabi, will have a share although he is understood to have been angered by the Ruler of Dubai's action earlier in the year.

The branch of the moratorium was said to be one reason for the final resignation of Mr. Ron

Table for EUROBONDS showing third quarter 1977 and 1976 performance metrics.

Table for Continued slow recovery showing third quarter 1977 and 1976 performance metrics.

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Table for Continued slow recovery showing third quarter 1977 and 1976 performance metrics.

Bank of New South Wales logo and text.

Bank of New South Wales announces that with effect from Tuesday, October 18th 1977 its base rate for lending was reduced from 7% to 6% per annum.

Bank of New South Wales, 29 Threadneedle Street, London, EC2R 8BA. Incorporated in Australia with limited liability.

Table for EUROBONDS showing third quarter 1977 and 1976 performance metrics.

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Table for Continued slow recovery showing third quarter 1977 and 1976 performance metrics.

Fairview Estates Limited PRELIMINARY STATEMENT YEAR ENDED 30th JUNE, 1977

Large table showing financial statement for Fairview Estates Limited, including Turnover, Dividend, and Profit & Prospects.

Advertisement for Cordis Corporation Common Stock, featuring the Cordis logo and a list of financial institutions.

Handwritten signature or mark at the bottom center.

# A new market for food machinery

By ZBYNEK ZEMAN and KELSEY VAN MUSSCHENBROEK

THE EEC and Comecon negotiations during the 11 of 1978 to establish a technology frequently pose relations and co-operation and agriculture are to figure prominently in discussions. The outcome talks could have immense implications for the future of the industry in the EEC, the medium- and long-

side for the moment, exports of food products, know-how and technology frequently pose immediate problems of payment. Comecon countries tend to insist on various forms of barter or "buy-back" deals, while Western companies increasingly resist these pressures in the knowledge that products offered in return are likely to be very difficult to sell in Western markets. Longer-term, however, the very technology transfers which are now taking place will certainly improve the quality and sophistication of Comecon food products. They will then become more saleable in Western markets. What worries some major companies involved in this trade, however, is that such products will then not just be more saleable, but will become highly competitive in view of Eastern Europe's natural food raw material base and lower labour costs which tend to be hidden from view and make any dumping charge difficult to sustain.

Indeed these problems have already started to be a reality. The fact that Unilever had recently to cut back severely on its pork products capacity in Holland had not a little to do with the rapid penetration of Polish pork products (that is, canned hams) in the already competitive American market. Again, imports of canned goulash and other meat products into West Germany from Hungary have more than once played havoc with leading German meat canners' production schedules.

## Grain raid

Looked at from the West there are both positive and negative reasons why there is a growing need to know much more about food and agriculture within the Comecon countries. This is symbolised perhaps by the way in which the U.S. has insisted on being able to maintain regular surveillance of Soviet crops within the terms of the 1973 U.S.-Soviet Agricultural Agreement.

Two record Russian grain harvests in succession (1976 and 1977) have lessened the threat of another Russian "grain raid." Despite this, it can be argued that the fundamentals of the Soviet grain problem have not really changed. The U.S. Department of Agriculture has just lowered its estimate of 1977 Soviet grain output to 215m tonnes, and raised its estimate of Soviet grain imports to 18m tonnes in 1977-78—implying a grain requirement of some 225m tonnes or some 6m tonnes short of the average annual long-term trend grain requirement. Will the Soviets enter world markets for extra grain or will they cope by holding down per capita consumption? The latter could be achieved by better utilisation of grain for livestock feeding or shifting human consumption away from grain towards meat (raised largely on high protein feed, or imported from Hungary) or a combination of both.

That in turn would have important implications for "processed" food markets such as bread and other bakery products, dairy products and baby foods, all of which are among sectors now receiving increased investment not only in the USSR but in most other Eastern bloc countries. In the five-year period 1971-75, capital expenditure in the Comecon food industry (excluding Yugoslavia) totalled an estimated \$36bn. (converting on the basis of official exchange rates) of which roughly half was accounted for by the Soviet Union.

Plans for 1976-80 investment indicate a total sum of \$47bn-\$54bn, depending on whether

Romania and the USSR will be able to spend the forecast upper limits of their capital fund allocations to the food industry. Again, roughly one-half of the total sum will be accounted for by the Soviet Union.

Past figures and some of the current plans suggest that of total capital expenditure in Comecon, up to 40 per cent goes to the purchase of plant and equipment. Taking this as a rule-of-thumb for the food processing sector, expenditure on machinery over 1971-75 can be estimated at \$10bn-\$14bn, and that planned for 1976-80 at \$16bn-\$19bn.

It is much more difficult to estimate actual and potential purchases of food processing machinery from the West. Trade data for 1971-75 is not available in a way that allows for calculation of total food machinery imports by Comecon countries. However, Soviet data suggests that purchases of food machinery from Western sources in 1975 totalled \$100m, excluding packaging equipment which was put at \$90m, worth in 1974 in a U.S. assessment of the Soviet market. The same source suggests that purchases of food processing and packaging machinery will reach over

## COMECON IMPORT POTENTIAL FOR FOOD INDUSTRY MACHINERY

	Meat and Fish	Dairy*	Milling and Baking†	Fruit and Vegetables	Beverages	Freezing and Cold storage	Canning, Bottling, Packaging
Bulgaria	Major; also co-operation agreements	Some		Considerable	Some		Some
Czechoslovakia	Some	Mostly technology	Little	Some	Some	Some	Considerable (mostly high technology equipment)
GDR	Little		Little		Some	Some	Some
Hungary	Some (equipment and technology)			Some; also co-operation agreements		Some	Considerable
Poland	Major (may include complete plant)	Major	Considerable	Considerable; also co-operation agreements	Major	Considerable	Considerable
Romania	Some (equipment and technology)	Some	Some	Some	Little		
USSR	Major	Major	Considerable	Major	Some	Some	Major
Yugoslavia	Some		Major	Some		Little	Some

\* Includes baby foods. † Includes confectionery

Source: Comecon

\$500m. by 1978. This could be doubled to \$1bn a year to make a rough guess of the total East European potential in this market, and implies that up to one-third of likely expenditure on food industry machinery by Comecon countries may go on purchases in the West.

That at least is one of a number of scenarios from a detailed report on Comecon food processing machinery, which forms part of a two-year research project on food and agriculture in the Eastern bloc countries, just completed, and backed by 17 of the world's largest food, drink, farm and food processing machinery and packaging companies.

The report also suggests that such is the level of pent-up demand for foodstuffs in Comecon countries, that for some

a substantial proportion of whom are married. Nevertheless, hard currency constraints coupled with the difficulty of exporting processed foods to the West, means that the various Comecon members will also be looking to each other to supply know-how and technology.

Intra-Comecon trade is continuing to grow in agro-chemicals, farm machinery, and such areas as sugar refining and brewing technology. These are also areas where the Comecon countries are competing more strongly in world (notably Third World) markets.

Other areas—industrial bakery, baby foods, soft drinks are notable examples—provide a complete contrast. Comecon members have to import most, if not all, the relevant new technology from the West.

## Convenience

An important dynamic for the future development of "second stage" processed food products in Comecon countries (convenience foods, if you like) is the high proportion of women at work—ranging 50 per cent in East Germany, for example—

Over the last few years it has become increasingly clear that the future of the Eastern bloc economies is linked to their performance in agriculture and food processing. These sectors can use up hard currency, badly needed elsewhere; agriculture can remain a heavy drain on the available labour pool; there are many other ways in which failure in food and agriculture can restrain the advance of the East European economies. Gradually, these sectors are winning the planners' attention as pivotal sectors of the economy.

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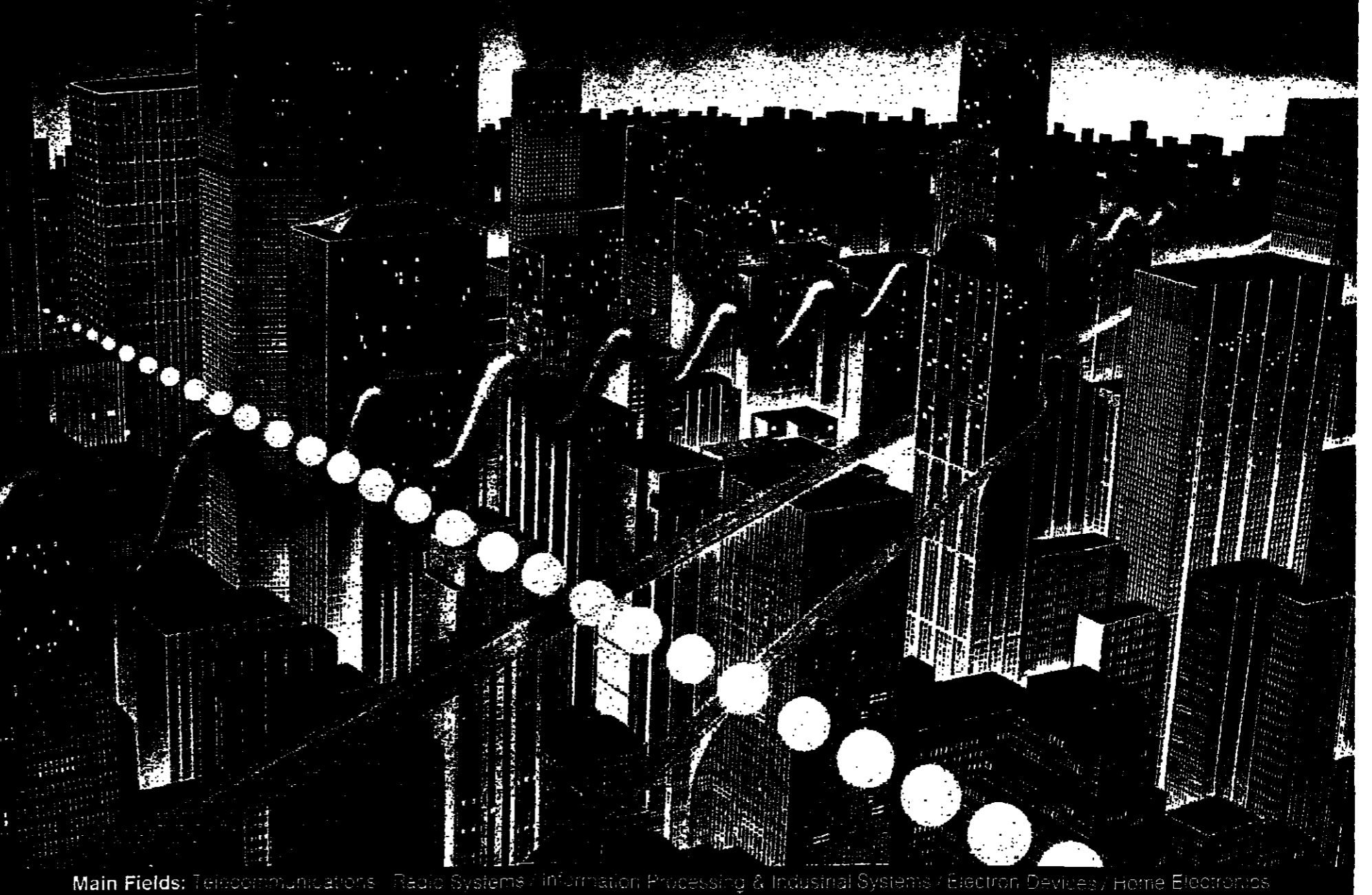
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## PUBLIC NOTICES

**CITY OF DUNDEE**  
30,000 bills issued 10.27 due  
at 11.11. Applications were  
made to the City Clerk  
10.27. Total outstanding 300,000.

**WINSBY BOROUGH COUNCIL**  
500 bills issued 10.10.77 due  
at 11.25. Applications were  
made to the City Clerk  
10.10.77. Total outstanding 500,000.

**ALL METROPOLITAN BOROUGH**  
50,000 bills issued 10th October,  
due 10th January, 1978 at a rate  
of 5.64ths. Applications totalling  
5,000. These are the only bills  
due.

## PLANT AND MACHINERY

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Public company interested in the  
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quiry and not for a third party.  
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shotblast room type.  
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25, Cannon Street, EC4A 3DF.

## OBITUARY

FER on October 15, 1977. Dr.  
John Ferguson, aged 85 years,  
London and of Exeter, died  
after a long illness. He was  
born in Exeter, Devon, and  
was a member of the family  
of the name of Ferguson.

## COMPANY NOTICES

**ANGLO AMERICAN INDUSTRIAL CORPORATION LIMITED**  
(Incorporated in the Republic of South Africa)

**DIVIDEND NO. 27**  
Further to the dividend notice advertised  
in the press on the 8th September, 1977  
the conversion rate applicable in payments  
in United Kingdom currency in respect  
of the abovementioned dividend is £1 =  
R1,545,985 equivalent to 14,230,400 per  
share.  
The effective rate of South African  
Non-Resident Shareholders Tax is 15 per  
cent.

For and on behalf of  
**ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED**  
London Secretaries  
J. C. GreenSmith

London Office:  
20, Abchurch Lane,  
EC4N 3DF, The United Kingdom  
Transfer Secretaries:  
Charter Consolidated Limited,  
P.O. Box 102,  
Charter House,  
Aldgate, Kent,  
TN24 8EQ.  
18th October, 1977.

**ANGLO AMERICAN INVESTMENT TRUST LIMITED**  
(Incorporated in the Republic of South Africa)

**ORDINARY DIVIDEND NO. 75**  
Further to the dividend notice advertised  
in the press on the 8th September, 1977  
the conversion rate applicable in payments  
in United Kingdom currency in respect  
of the abovementioned dividend is £1 =  
R1,545,985 equivalent to 129,367,279  
per share.  
The effective rate of South African  
Non-Resident Shareholders Tax is 15 per  
cent.

For and on behalf of  
**ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED**  
London Secretaries  
J. C. GreenSmith

London Office:  
20, Abchurch Lane,  
EC4N 3DF, The United Kingdom  
Transfer Secretaries:  
Charter Consolidated Limited,  
P.O. Box 102,  
Charter House,  
Aldgate, Kent,  
TN24 8EQ.  
18th October, 1977.

**DE BEERS CONSOLIDATED MINES LIMITED**  
(Incorporated in the Republic of South Africa)

**DEFERRED DIVIDEND NO. 115**  
Further to the dividend notice advertised  
in the press on the 8th September, 1977  
the conversion rate applicable in payments  
in United Kingdom currency in respect  
of the abovementioned dividend is £1 =  
R1,545,985 equivalent to 1,111,111 per  
share.  
The effective rate of South African  
Non-Resident Shareholders Tax is 15 per  
cent.

For and on behalf of  
**ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED**  
London Secretaries  
J. C. GreenSmith

London Office:  
20, Abchurch Lane,  
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WALL STREET OVERSEAS MARKETS + FOREIGN EXCHANGES
Rally on bargain hunting falters Dollar steadier

BY OUR WALL STREET CORRESPONDENT

AN INITIAL rally fuelled by a new rise soon in the Prime bargain hunting on Wall Street to-day lost its momentum during the afternoon trading and stock prices finished on a mixed note.

The Dow Jones Industrial Average was only 0.17 harder on balance at \$20.51, after having touched \$20.54 earlier in the session. The NYSE All Common Index ended unchanged on the day at \$51.19, after \$51.37, while gains led the edge over losses by 687 of 820 trading volumes expanded by 2.7m. shares to 20.13m, compared with yesterday.

TUESDAY'S ACTIVE STOCKS

Table listing active stocks including Alcon Laboratories, Dr. Pepper, Veto, etc. with columns for stock name, price, and change.

OTHER MARKETS

Canada mixed

Canadian Stock Markets closed on a mixed note yesterday after a moderate business. The Toronto Composite Index was 1.0 easier at 97.1, while Golds, after recent tinning apprehension about the money supply, which has risen sharply in the latest two state-

Indices

NEW YORK - DOW JONES

Table showing Dow Jones indices for Oct 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1977.

STANDARD AND POORS

Table showing Standard and Poors indices for Oct 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1977.

OVERSEAS SHARE INFORMATION

NEW YORK

Large table listing various overseas stocks such as Abbott Labs, Alcon Laboratories, Amgen, etc. with columns for stock name, price, and change.

Food and Electricals were the biggest gains, followed by Investment Portfolios, Motors, Buildings and Stores, Banks, Printing and Paper.

Commerzbank led Banks up to DM3.50, after a previous loss of DM1.50. Property shares were up to DM1.50, while BASF put to DM1.50 in Chemicals.

OTHER MARKETS

Switzerland - Narrowly

Swiss Registered advanced Frs.3.625 following its proposed U.S. acquisition.

U.K. and German issues

U.K. and German issues improved, while Dutch and French issues were steady and U.S. narrowly mixed.

AMSTERDAM - Share prices

mainly edged forward in quiet conditions. Royal Dutch led Dutch internationals higher with a gain of Frs.1.

General - Immobiles

General - Immobiles fell 4.50 to 100.00, the company's decision on whether to go ahead with a plan to sell the State-owned Condote D'Acqua as part of a project to salvage Immobiles.

IN BONDS, interest centred

on the indexed ENEL issue and Treasury bills.

NEW YORK - ALL COMMON

Table showing New York All Common indices for Oct 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1977.

MONTEREAL

Table showing Montreal indices for Oct 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1977.

JOHANNESBURG

Table showing Johannesburg indices for Oct 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 1977.

SPAIN - Market tended lower

in quiet trading, the Madrid index slipping 0.18 to 65.00. However, there was some buying of Property shares.

COPENHAGEN - Generally

softer in moderate dealings. OSLO - Slightly easier. VIENNA - Quiet and mainly little changed.

HONG KONG - Slightly firmer

in thin trading, with interest concentrated in Blue Chips. Jardine Matheson rose 10 cents to \$213.90 on the higher interim dividend and forecast rise in annual dividend and profits.

TOKYO - Market closed on

an irregular note after moderate activity, but with Blue Chips looking firmer on a revival of cheap buying. Volume 230m. shares (300m.).

ANNIVERSARY - Gold shares

generally reacted, reflecting some profit-taking and disappointment over the latest quarterly results. Trading was sporadic. Losses of 20 cents and 50 cents, but there were isolated gains of up to 25 cents.

AUSTRALIA - The renewed

power strike caused prices to react after a firm start to finish with irregular movements.

BEP were unchanged on

balance at \$45.44, after touching \$45.40, after a heavy turnover. However, Coal issues were mainly higher, with Coal and Allied up 30 cents to \$42.20. Gold gained ground in reflection of the strong bullion price, while other Minings also tended firmer.

EXCHANGE CROSS-RATES

Table showing exchange rates for Oct 18, 1977, including Frankfurt, New York, Paris, Brussels, London, Amsterdam, Zurich.

EURO-CURRENCY INTEREST RATES

Table showing Euro-currency interest rates for Oct 18, 1977, including Sterling, Canadian Dollar, U.S. Dollar, Dutch Guilder, Swiss Franc, West German Mark.

TOKYO

Table showing Tokyo indices for Oct 18, 1977.

AUSTRALIA

Table showing Australian indices for Oct 18, 1977.

BRUSSELS/LUXEMBOURG

Table showing Brussels/Luxembourg indices for Oct 18, 1977.

PARIS

Table showing Paris indices for Oct 18, 1977.

SWITZERLAND

Table showing Swiss indices for Oct 18, 1977.

COPENHAGEN

Table showing Danish indices for Oct 18, 1977.

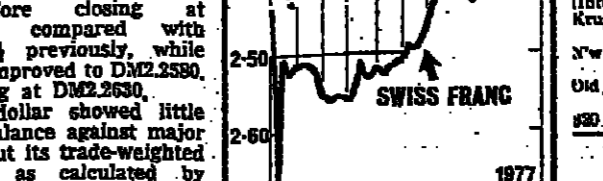
VIENNA

Table showing Austrian indices for Oct 18, 1977.

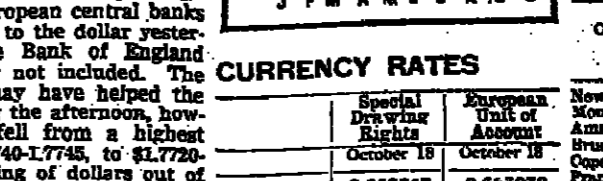
The Canadian dollar was very

stead at 62.5 at noon and 62.4 in gold dealings. Gold gained a further \$1.160-160 in moderate trading.

DEUTSCHE MARK



SWISS FRANC



CURRENCY RATES

Table showing currency rates for Oct 18, 1977, including New York, London, Amsterdam, Zurich, Frankfurt, etc.

EXCHANGE CROSS-RATES

Table showing exchange cross-rates for Oct 18, 1977, including Frankfurt, New York, Paris, Brussels, London, Amsterdam, Zurich.

EURO-CURRENCY INTEREST RATES

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SWITZERLAND

Table showing Swiss indices for Oct 18, 1977.

COPENHAGEN

Table showing Danish indices for Oct 18, 1977.

VIENNA

Table showing Austrian indices for Oct 18, 1977.

GOLD MARKET

Table showing gold market prices for Oct 18, 1977, including New York, London, Amsterdam, Zurich, Frankfurt, etc.

FOREIGN EXCHANGES

Table showing foreign exchange rates for Oct 18, 1977, including New York, London, Amsterdam, Zurich, Frankfurt, etc.

CURRENCY RATES

Table showing currency rates for Oct 18, 1977, including New York, London, Amsterdam, Zurich, Frankfurt, etc.

EXCHANGE CROSS-RATES

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TOKYO

Table showing Tokyo indices for Oct 18, 1977.

AUSTRALIA

Table showing Australian indices for Oct 18, 1977.

# FINANCIAL TIMES SURVEY

Wednesday October 19 1977

# London Metal Exchange

Centennial year for the London Metal Exchange could see a major new venture —the launching of an aluminium futures contract. Tin and lead have proved lively markets in the past 12 months, but copper and zinc remain depressed.

**CENTENNIAL YEAR** has not been a particularly happy one for the London Metal Exchange. Its main market, copper, has been depressed and seems to remain so for some time. On the other hand the tin and lead markets have been very active. The tin market has been very active, and the lead market has become a reater influence in trading. The price for zinc coming from heavy pressure. Trading in the U.S. tends to call for a price with copper to a extent.

the surface it appears to be a fairly uneventful year, apart from centennial celebrations. But the scenes plenty has happened. It now seems likely that the LME will lead with plans to launch a contract for aluminium. would be the first new contract on the Exchange since was launched in 1968.

would represent a considerable gamble in that most of the world aluminium producers, who fix the price at which they sell their product, strongly opposed to a rival medium being set up by the London Metal Exchange which could put traditional trading partners in the industry. It can be said therefore that a new contract will not be launched without a considerable struggle.

It is supporters claim that there is a definite demand for a medium and alternative source of financing stocks of surplus, or for a source of extra supplies in

times of shortage. Aluminium is after all the biggest non-ferrous metal in volume terms and several member companies of the Exchange already trade in substantial quantities on the so-called "free" market, not controlled by the big Western world producers.

The move by one-dealer, Rayner Harwill (a subsidiary of the S. and W. Berisford group), to set up its own free-market aluminium trading contract last month, has been another important influence encouraging the LME to go ahead with an aluminium futures contract. It is that it set an important precedent in demonstrating that it could be done. Whether the much larger scale LME contract will attract sufficient supplies to make it a viable market, or be crushed by the producers, is another matter.

## Prospects

But the LME management committee has also to bear in mind that the Exchange cannot live on past glories. It will have to be expansion-minded if it is to survive the next 100 years. Prospects for a nickel futures market are also being carefully studied in view of the changed situation in that metal, with International Nickel losing its dominance and scrapping, temporarily at least, the producer quotation in favour of confidential pricing.

Extra markets to deal in would undoubtedly be welcomed by most metal traders faced with the prospect of a depressed copper price for some time to come. Indeed if the controversial UNCTAD proposals for an integrated commodities programme, backed by a multi-

purpose common buffer stock fund, come to fruition then the Metal Exchange could lose its present dominant role in world copper pricing.

Very slow progress has been made in negotiations for the establishment of an international copper agreement. The talks, which were making unexpectedly good headway at one stage, have now been clouded (some would say poisoned) by the politics surrounding the

fluctuating London Metal Exchange quotations.

Zinc producers are also extremely reluctant to abandon their European producer price system in favour of reverting to LME quotations, as is the case with lead.

New efforts are being staged by Continental zinc producers in particular to defend the producer price system established in 1964. They are backed to a large extent by consumers too,

gathering impetus. So it is important for the Metal Exchange to try and widen its interests if it is to maintain an important, and influential, role in world metal trading.

To fulfill at the same time its role as a world metal trading centre, the LME is under pressure to improve the financial stability of the market as a whole. This will be of greater importance should new markets be introduced to increase the

financial risk is spread among all members of the clearing association.

Many leading companies, especially in the U.S., feel that a clearing system is essential for the LME these days in view of the big escalation in the sums of money traded resulting from higher metal prices and a big rise in the volume traded. They claim they cannot risk using the Metal Exchange under the present system and instead have to

the LME management committee, was formerly a keen supporter of a clearing system being introduced. But he has now changed his mind completely.

"A clearing house system will not be introduced," Mr. Foster has said lately. Instead the LME members are to be asked to approve the introduction of the so-called "monitoring" system, linked with the use of a computer that will provide much more up-to-date information on trading details.

The basic idea is to be able to spot, and take evasive action if necessary, any dangerous situations building up. At the same time the financial guarantees provided by member companies will be more closely linked with the trading done and the extent of the risk involved.

The Bank of England appears to be prepared to accept the compromise since it is far from anxious to encourage the growth of speculation and diminution of trade hedging that are likely to result from a full-blown clearing house.

The argument is that existing industrial users of the market, who are given privileged treatment by member companies in not having to provide the margins and deposits required from other clients, would not be prepared to put up the margins required by a clearing house since this would create cash flow problems.

In addition, the need for clearing house margins would also threaten another important part of present LME trading—the so-called "cash and carry" deals, used by financial institutions to earn an

advantageous interest rate. Attraction of these funds from outside sources is of vital importance to the LME and the metals industry, in that they help finance surplus stocks of metal which would otherwise have to be borne by the producer or consumer.

The funding of over 60,000 tonnes of copper held in the LME warehouses has been a major achievement raising the envy of aluminium and nickel producers who have to finance their own stocks.

## Speculator

In this context the role of the speculator in helping to provide sufficient liquidity for the market to operate effectively for the trade is also being appreciated more by government authorities. There is little doubt that speculators have helped keep the price of copper substantially above the true market level, based purely on supply and demand considerations. In tin, speculators have probably helped push prices higher than necessary and there was considerable criticism earlier this year that lead values had been artificially inflated.

In the long term, however, it can be rightfully claimed that speculators put more money into the markets than they take out, while also providing the liquidity required for trade hedging. Nevertheless there are at present such big sums of available money around, even in Britain, seeking a haven against currency uncertainties and inflation that speculation is becoming a far more prominent market influence than in the past.

## Debate on world role

By John Edwards, Commodities Editor

UNCTAD programme. The general feeling is that an international copper agreement at this stage is neither practicable nor workable.

But the rich countries of the world are committed in principle to supporting the UNCTAD commodities programme and common buffer stock fund. Copper is one of the ten "core" commodities selected by UNCTAD as a means of raising living standards in the developing countries by raising their export earnings through higher market prices, "stabilised" by an agreement. Few people would categorically state therefore that there will not be an international copper agreement within the next few years—or alternatively a new method of copper pricing, not based on

who prefer stable prices, especially as they are given discounts during times of surplus.

Tin prices have at present broken loose from the control of the International Tin Council by shooting far above the "ceiling" set under the International Tin Agreement. But it is only a matter of time before either prices come down, or the "ceiling" is raised sufficiently for the Tin Council to reassert control.

There are signs too that producer influence is growing again in the lead market, although the full-scale support having that used to be a permanent feature appears to have disappeared for good.

Overall, the trend towards greater "stabilisation" of commodity and metal prices is

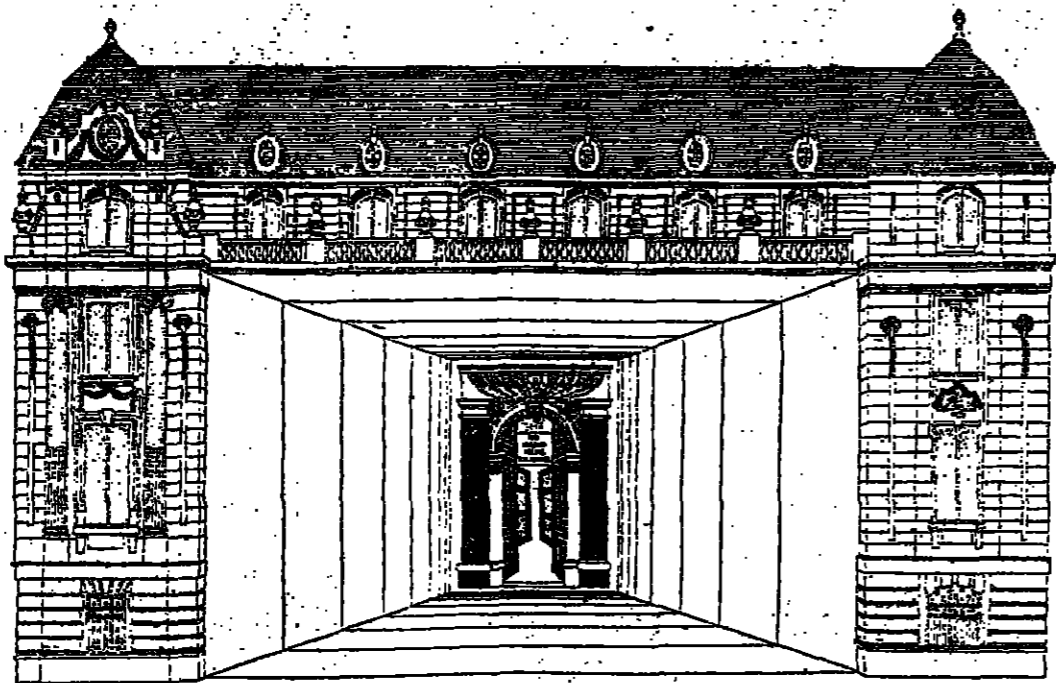
huge sums traded daily across the "ring" even more. It is no secret that the LME has been under constant pressure from the Bank of England, as well as many other interested parties, to introduce some kind of clearing house system to provide greater financial stability.

The unique set-up of the LME, involving principals' contracts, means that the ring-dealing members have to bear individual risks, and it is feared that a big failure by one company could have a domino effect that would wreck the whole market. This particular danger could be overcome with the kind of clearing house system used by the "soft" commodity markets in Mark Lane or the type used by the U.S. markets where the

en elsewhere, notably to Comex in New York.

However, a large sector of the LME feels that the introduction of a clearing house would destroy the whole fabric of the market, turning it into a mini-Comex by driving away trade participation in favour of speculators. They point out that the Exchange is very different from other commodity futures markets in that it is also an important physical trading centre.

The debate between the two sides has continued for many years, much to the frustration of the Bank of England. But with pressure increasing all the time, new proposals are promised within the next month or so. They will disappoint supporters of a clearing house. Mr. Mark Lane or the type used by the U.S. markets where the



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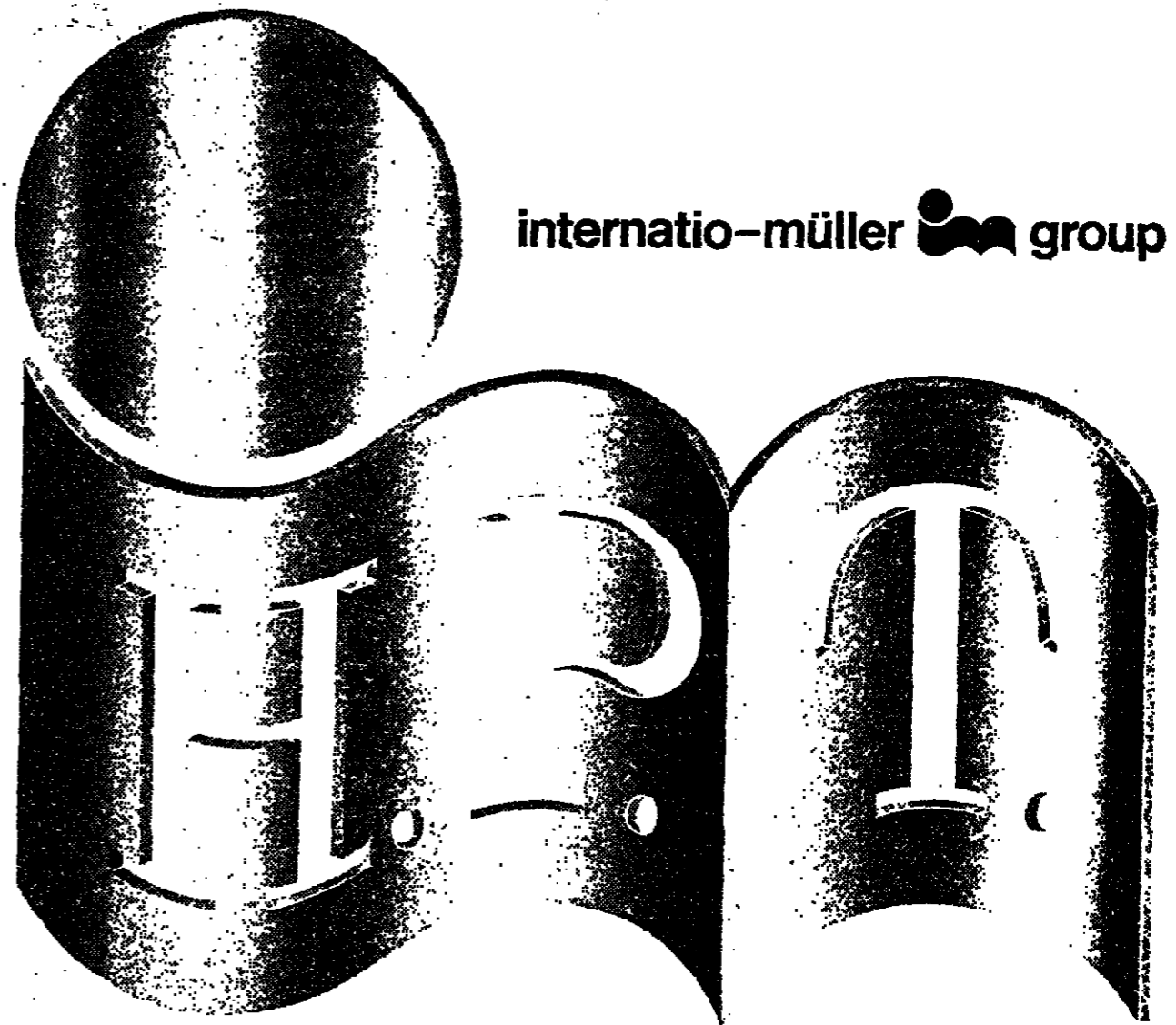
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**COPPER**

COPPER HAS proved a great disappointment to those expecting, or hoping for, higher price levels this year. A year ago it was confidently being forecast that copper prices would move up during the second half of 1977 when demand would be stimulated by a general recovery in industrial activity. Prices might well be pushed even higher, it was predicted, should there be a long-drawn-out strike by U.S. copper workers when their three-year labour contracts expired at the end of June.

In the event copper prices this year have followed much the same pattern as in 1976, rising in the first-half in anticipation of an improvement in the supply-demand situation and subsequently falling back when the improvement failed to materialise. In fact copper prices are currently below the depressed levels of 12 months ago, since when the inflation in production costs has continued. Only a small percentage of copper mines are able to produce profitably at current prices, and many of them are suffering heavy losses.

It had been anticipated that a strike by copper workers in the U.S., the world's biggest producer, would help to reduce the huge surplus stocks currently available.

But a quick settlement by the major U.S. producers, capitulating to union demands, minimised the loss of production and left consumers and merchants with bigger than normal stocks, built up in anticipation of a lengthy stoppage.

Although U.S. producers have introduced some severe cut-backs in output, reflecting their higher costs and lower price levels many producers in other areas have stepped up output. This is the result partly of expansion plans made several years ago coming on stream. At the same time some of the poorer countries, dependent on copper exports have increased output in an attempt to compensate for the lower prices by selling greater quantities and thereby maintain the revenue received.

In consequence surplus stocks of copper have continued to rise and are now estimated at over 2.5m. tonnes, against a world refined production total of nearly 7m. tonnes this year. With demand for copper and other metals falling to pick up as expected, the heavy surplus of supplies depressing the market could continue for some time yet.

The latest issue of Copper Trends, published this week by Amalgamated Metal Trading, predicts that the growth in pro-

**WESTERN WORLD REFINED COPPER**  
(000 tonnes)

	Actual						Forecasts				
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World stocks start year	817	1,117	1,150	1,267	1,092	1,741	2,586	2,830	3,082	3,261	3,531
Refined production	6,165	5,843	6,381	6,685	6,954	6,298	6,672	6,979	7,232	7,430	7,808
Refined consumption	5,799	5,722	6,275	6,936	6,495	6,463	6,411	6,732	7,078	7,210	7,600
Net imports/exports	(73)	(30)	+8	+70	(6)	+2	+51	+20	+30	+50	+50
Govt. purchases (-/ sales(+))	Nil	Nil	-6	6	196	8	-63	-15	-5	Nil	Nil
World stock year end	1,117	1,159	1,267	1,092	1,741	2,586	2,830	3,082	3,261	3,531	3,786
Ratio stocks to consmptn.	19.3	20.2	20.2	15.7	26.8	47.3	44.1	45.8	46.0	49.0	50.0
Month's stock	2.4	2.4	2.5	1.9	3.3	5.7	5.3	5.5	5.5	5.9	6.0

Source: Copper Trends 1970-80, Amalgamated Metal Trading.

duction will continue to outstrip consumption until at least 1980, and possibly longer. It estimates Western world stocks at the end of this year will be over 3m. tonnes and rise to nearly 3.8m. tonnes by the end of 1980 when they will be the equivalent of six months' consumption.

This gloomy scenario and the booming London stock market have together already prompted some long-term investors in copper to sell out their holdings and put their money elsewhere to more profitable use. It is generally admitted that in the

likely to grow so great that some form of agreement, and stockpiling, in an attempt to bring prices to more economic levels, is inevitable.

At the same time individual action may be taken by certain countries to build up copper stockpiles. The Japanese have already created a substantial copper stockpile as a result of their agreement with the poorer countries not to disrupt the world market by exporting their surplus supplies. The French are also planning a metals stockpile in anticipation of shortages in the years ahead.

In the U.S. the Carter Administration has finally endorsed the recommended strategic stockpile policy, adopted by the Ford Administration just before it lost office. This new policy, based on the needs for a three-year war, includes the rebuilding of a strategic copper stockpile, previously exhausted by the sale of all surplus holdings. But it may take a long time for the proposals to be approved by Congress, and an even longer time for stockpile purchases of copper to start.

The fundamental trend in copper prices will therefore continue to be mainly influenced by the supply-demand situation. At the moment the outlook is for prices to remain depressed, although they will reflect inflation and currency changes. Despite the low level of prices, consumption of copper is likely to grow more slowly than in the past since there appears to have been a definite shift in some of the main areas of demand, notably in the electrical sector where the drive to reduce energy usage has discouraged new investment.

Unless China emerges as a major buyer, or there is an unexpected upturn in world economic activity, the main burden will be on producers to cut back supplies if the build-up of surplus stocks is to be halted. The signs are, however, that it will be virtually impossible in the short term to coordinate the necessary cutbacks in production.

**TIN**

WHILE COPPER has been labouring in the depths of depression, tin has been booming with prices moving up in an apparently unending spiral. A year ago tin prices had shot up to the unprecedented level of \$7,000 a tonne. In the past year they have advanced by nearly £2,000 more and the general expectation on the Metal Exchange is that tin will breach the \$7,000 a tonne mark before the end of the year. This further upsurge in prices to record levels has been achieved despite the recession in the steel industry and poor demand for other non-ferrous metals.

Tin is normally highly sensitive to industrial trends, especially in steel, since its main outlet is in tinplate— which is basically steel with a very thin coating of tin. There are several factors why it has moved against the trend. The basic influence is that production has been falling to keep up with the growth in demand, despite the much higher price levels, and this is mainly the result of the failure to discover any new significant reserves of tin. In Malaysia, by far the world's biggest producer of tin, production has been falling instead of moving ahead. This setback mirrors the exhaustion of existing deposits and a move towards lower grade ores, as well as intense competition from other sources for lead with tin deposits. The taxation system in Malaysia is also blamed for discouraging investment in developing new resources that is now coming home to roost.

In other areas too, with the relatively minor exception of Cornwall, increases in production have been slow to materialise for various reasons and China has also cut back its exports sharply. During the past shortfalls in tin production to demand have been made up by releases from the big U.S. strategic stockpile of supplies surplus to requirements. But there

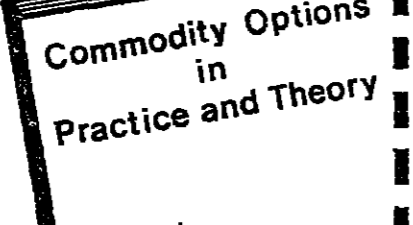
is now sufficiently divided general trend towards his opinion in the U.S. about the living standards, could p advisability of cutting back its more than adequate in stockpile any more to make it longer term. For the most difficult to obtain the necessary however, tin producing approval of Congress for further tries, and notably Bolivia, releases. At the same time the price ranges of the U.S. has been reviewing its policy national Tin Agreement more "reasonable" reflecting the rise in production. Although has been a continuing shortage, prices must be probably aggravated by consumers buying on a rising market and it is argued that a guaranteed price is required before investment interest be attracted in developing tin deposits.

Needless to say not a summer members of the national Tin Agreement, this viewpoint. Some relief of the present may come fairly shortly. U.S. Administration is persuading Congress to contribute to the national Tin Agreement stock should be paid in the of 5,000 tonnes or so of metal from the stockpile that tin is liable to be set up quickly by the unless there is some that the U.S. is prepared release some more 200,000 tonnes—about a world consumption—still in the stockpile. The U.S. Administration has the view that only about 100,000 tonnes is required, theoretically at least in tonnes could be available release.

But it is likely to take some time to persuade Congress to approve the whole new pile policy in view of the conflicting interests involved. At the same time the International Tin Agreement came into force this after much wrangling, pledged not to disrupt precious metal class, as predicted by some traders, the amount of tin required by the world, even bolstered by the

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**LEAD/ZINC**

THE TWO "sister metals"—lead and zinc—have moved in opposite directions during the past year. Lead prices have gone up, including a spurt to all-time peaks on the London market at the beginning of March. In contrast zinc prices have fallen to the lowest level for four years and the European zinc producer price was cut from \$795 to \$700 a tonne last May.

Lead prices were bolstered last year by heavy buying from the Soviet Union, believed to be replacing output lost as a result of a major smelter breakdown.

This buying and cutback in scrap supplies as a result of the industrial recession, reduced surplus stocks despite a fall in Western world consumption. As a result, when a surge of demand from battery makers was triggered off by the unexpected very cold spell in the U.S. at the beginning of the year, an underlying shortage of supplies was revealed, and prices rose sharply to record levels.

Speculative buying exaggerated the rise, and brought protests from some trade interests that prices had been artificially inflated as a result. But the London market was able to satisfy the Bank of England that no special investigation or ban on speculative trading was either necessary or desirable.

As expected, lead prices fell back once the sudden rise in demand was satisfied, but the mood in the market is now "bullish" again with many traders expecting the £400-a-tonne mark to be reached by the end of the year.

Stocks are reported to have been cut again, with battery

makers remaining active both in Europe and the U.S. At the recent International Lead and Zinc Study Group meeting in Geneva, it was noted that lead supply and demand were finely balanced. Metal consumption was forecast to rise to 3.7m. tonnes—close to a record—and production was predicted to increase to 3.64m. tonnes, leaving a small net shortfall to be made up from stocks. But for 1978 the group is expecting a surplus of about 130,000 tonnes, with production rising to 3.86m. tonnes and consumption to 3.74m. tonnes plus net exports to the Communist bloc of 39,000 tonnes.

However, some trade sources see the supply position becoming rather tighter. One factor not shown up in the statistics is called "maintenance-free" batteries, which either use less antimonial lead or some other material with lead. This means that the present supplies of antimonial lead cannot be properly utilised, while at the same time there should be a greater demand for primary lead during the transitional period.

Another factor is that there have been cuts in output of lead, as a result of the more urgent need to reduce surplus production of its sister metal. The two metals are often found in the same orebody. In normal times lead should be more plentiful and cheaper, because its smelting requires less capital investment and energy, and very much larger amounts is reclaimed as scrap to be recycled again.

The fact that the lead price is at a premium to zinc at present emphasises the relative shortage of lead, but is probably

CONTINUED ON NEXT PAGE

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LONDON METAL EXCHANGE III

The growing influence of investment buying

IC UNCERTAINTY is in the first place to serve the interests of the metals trade in a less politically sensitive interest in metals. The activity remains the cornerstone of the LME, although not necessarily of its U.S. counterpart Comex in New York.

But this function could not be exercised in the market. The point has been taken by the Government, which is no friend of the financial manipulator. In a speech in May 1976, Mr. Harold Lever, the Chancellor of the Duchy of Lancaster, addressed the question directly.

make the peaks and troughs of the metals it would have tin at the top, followed by lead, copper and zinc. Partly this is because the trade is somewhat sluggish in its approach to the market. Buyers for investment might, for example, take a view that prices are at the bottom and buy on the expectation of a rise.

This prompts trade activity up because, say, fabricators do not want to be faced with the problem of buying at still higher prices. The market has begun to move upwards, bringing in turn more speculation with it. The same process works in reverse as the spiral goes down.

of severe breaches of its policy of smooth, ordered and free market trading. But the influence of the investor will still vary according to the state of the market. If industrial activity is at a low ebb and the trade is moving around less metal than in more prosperous times, then the amount of its hedging activity will be less, and the role of the speculator might be the greater.

What is at issue is not the elimination of investment transactions. If there is to be a free market, reflecting the shifts of supply and demand in arriving at a trading price, such business is vital. It is the lubrication of the market. Rather, what is at issue is finding a balance between speculation and trade activity, between which the line is sometimes very fine.

SILVER

On the supply side, the short-lived U.S. copper workers' strike brought cutbacks in some silver production, too, and production continues to run well below demand overall.

"Smoothing" has brought a reduction in silver business both in the U.S. and London on fears that any decisions made might be retroactive. At the same time the recent moves by the Commodity Futures Trading Commission (CFTC) to regulate U.S. option trading has also affected silver in London, since silver has in the past been the favourite market for both tax "straddles" and option trading in metals.

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It may well be decided that the heavy U.S. dependence on silver imports to meet its needs makes it undesirable to sell off the stockpile at knock-down prices. The trend of silver prices is virtually always decided in the U.S. where the large flow of speculative funds affecting the New York and Chicago markets are a dominant influence.

LEAD/ZINC

more attributable to the huge surplus of zinc that has built up in recent years as a result of declining consumption. At the Lead and Zinc Study Group it was predicted there would be a shortfall in production at 4.5m. tonnes compared with the Western world consumption of 4.5m. tonnes and net imports of 50,000 tonnes from the Communist bloc.

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**OPTIONS TRADING** represents only a small portion of the aggregate trading volume handled through the LME, but for the past year options have been one of the most publicised and closely scrutinised LME activities.

Responsible for bringing the topic of London metal options to the fore was the U.S. Commodity Futures Trading Commission (CFTC), which earlier this year published its proposed regulations for a three-year pilot programme of commodity options trading in the U.S.

**Protest**

The CFTC proposals generated a storm of protest from the LME and other London commodity exchanges, on several counts. Foremost was the proposal that overseas exchanges be required to apply formally for "recognition" in the CFTC in order to be able to trade options on the U.S. market.

Another element of particular concern to the LME was the CFTC's stated preference for

commodity options to be backed by an exchange with a clearing house system, which the LME does not have.

Both of these proposals were anathema to the LME, which flatly told the CFTC that the integrity of the LME as an independent body would be undermined by submitting to jurisdiction from an overseas regulatory body.

In the end the CFTC withdrew its insistence on a clearing house and formal recognition, when it published revised options trading regulations at the end of August. The LME had won a major victory in principle.

This moral victory was unquestionably important to the international reputation and integrity of the LME. Its financial benefit to London metal dealers, however, is negligible.

The fact is that metal options trade between London and the U.S. market has already declined rapidly because of the CFTC requirement for segregation of customer funds. When options trading commences next year on U.S. exchanges, much of this

business could disappear entirely.

Put simply, the grantor of a metal option gives his customer the opportunity to buy or sell (or do either) a contracted quantity of metal on a certain future date (the "prompt" date) at a price agreed in advance (the "striking" price) by the grantor and his customer.

**Premium**

The preponderance of options transactions are "call" options, in which the customer pays the grantor a premium for the right to buy metal at the striking price on the prompt date. The most commonly traded metal options have traditionally been in copper and silver.

The real heyday of options trading came during the commodities boom of 1973-75, when metal buyers were willing to pay a dealer premium in return for the security of an option day, as there is on the "soft" price, and speculators were anxious to cash in on skyrocketing metal prices.

During that period nearly all metal options transactions were in copper and silver, the two markets with the greatest liquidity, where the grantor could be reasonably assured of the opportunity to hedge adequately.

When prices are relatively stable, the attraction of options is greatly diminished. As a result 1975 was a very dull year for options traders.

When prices picked up early in 1976, and later fell back rapidly, the options market once again became very active, and remained so through early 1977, until the combination of the CFTC segregation rule and lack of performance of most metal prices combined to reduce interest in options.

It is very difficult to quantify the volume of trading in metal options, because on the LME, there is no statement of open interest on options transactions at the end of each day, as there is on the "soft" commodity exchanges.

In London the vast majority of metals options transactions

are handled through a small handful of firms, for which options represent a big part of their business. In aggregate despite the drawback of these terms, however, the volumes of options traded represent a very small portion of total LME business.

It is generally reckoned by London options dealers that the CFTC rule on segregation of funds has reduced their options sales to the U.S. by anywhere between 50 and 80 per cent.

Even so U.S. business still probably accounts for slightly over half the metal options granted by London dealers.

**Trickle**

Until quite recently copper and silver options accounted for virtually all of the volume in metal options. The market for silver options, however, has been reduced to a mere trickle as a result of the relatively stable price pattern of late.

Although trade in silver options has declined dramatically since 1974, dealers have since begun selling lead and zinc, tin, platinum and even aluminium options.

At present lead is rivalled by copper as the most actively traded metal option, with an average daily turnover estimated in excess of 3,000 tons for each metal, according to some dealers.

The recent buoyancy and volatility of tin prices has even

prompted some activity in options, estimated at perhaps 150 tons a day on average. In aggregate despite the drawback of these terms, however, the volumes of options traded represent a very small portion of total LME business.

On the other hand form options contracts on U.S. changes could serve to bring the market as a whole, leading to a sizeable arbitrage business between the LME and the American exchange according to dealers here.

By a Correspondent

**How the LME works**

THE LONDON Metal Exchange has seen many developments in its 100 years of existence, but the basic principles of the trading system have shown little change and the same strict requirements are insisted upon from members as in the days of top hats and elegantly rolled umbrellas.

The operating structure of the LME is somewhat unusual by normal standards, so it should be explained that it is really an animal with two heads—both working closely in unison. The Exchange itself is owned by the Metal Market and Exchange Company, which has its own Board of directors and, apart from being responsible for all the logistics of running the building, is responsible in the final analysis for the financial standing and stability of all the members.

The executive arm, so far as day-to-day business is concerned, is the Committee of Subscribers.

Its responsibilities range from the assessment of daily prices to the formation of new contracts. It is headed by the Standing Committee, consisting of the chairman and vice-chairman of the Committee itself and five other senior members, which is responsible for day-to-day market discipline and would act if necessary to investigate any disputes that might arise over business transactions. There is also a Quotations Committee which has direct responsibility for the daily assessment of prices. The two main bodies are loosely known as the House of Lords and the House of Commons and work in joint session on all major matters of policy.

The Committee of Subscribers is elected by members in March each year with the new committee assuming office in the following month. The Board is also elected by the subscribers, and of its nine members three

retire each year in rotation and may offer themselves for re-election. Like the members of the House of Lords across the river, their stay in office tends to be of a more permanent nature. It may seem, on the surface, that the LME is rather too well endowed with Boards and Committees, but the system seems to work well in practice.

To become a member of the Exchange, an applicant must be proposed by one existing subscriber and seconded by another. If elected he must acquire a minimum of two shares in the Metal Market and Exchange Company. The basic qualification for any applicant, apart from an expected knowledge of the metals business, is that he be a director or partner in his company or firm. In addition, if he is from a firm two-thirds at least of his fellow partners must be British subjects and domiciled within the British Commonwealth. The same applies to applicants from companies, but here three-fifths of the directors must be British subjects.

Discretion

Although the election of subscribers as such is a matter left to the discretion of the Board, the granting of the privilege to deal in the ring—the centre of the Exchange around which all trading is undertaken by open outcry at specified times during the day—is a joint decision of the Board and the Committee. Both categories of subscribers are only asked to contribute a nominal sum in terms of membership fees, but for those aspiring to ring dealing membership the matter is quite different.

All ring dealing members have to satisfy extremely exacting financial requirements. All companies represented in the ring must show at least a six-figure margin of solvency and provide a bank guarantee of very substantial proportions. If the subscriber represents a subsidiary company, the parent company has to put up the same guarantees. These safeguards are necessary because every ring-dealing member of the Exchange has to carry the full responsibility for every contract he enters into; there is no central clearing house system as

with other commodity futures markets.

At the present time there are 28 ring dealing members of the LME and 73 non-ring dealing members. All the non-ring dealing members must put their business through members of the ring, since they are not allowed to deal across the ring in their own right. Once elected to the ring, the representative subscriber company is allowed to nominate one or more authorised clerks to trade in the ring on its behalf. These, too, come under strict scrutiny to ascertain their qualifications and ability to deal.

One of the great changes that has occurred in recent years is that the LME has now become truly international in concept. Of the ring-dealing members, over half are owned or controlled by groups outside the U.K.

Some of the companies within the LME are partly owned by overseas interests, such as ring-dealing member Rudolf Wolf (a firm that is one of the founder members of the original LME) which is 50 per cent. owned by the giant Canadian Noranda group, itself a non-ring-dealing member of the Exchange. Then you have ring-dealing companies such as Triland Metals, of Bow Bells House, whose very English name and situation conceals a very substantial Japanese interest in the shape of Mitsubishi Shoji.

Ring-dealing member Metallgesellschaft, trading under no other label, is a subsidiary of the Frankfurt group of that name. Billiton-Enthoven Metals (part of the Shell Group), Anglo Chemical and Ore (backed by Engelhard and Mitsui Bussan), Ametalco Trading (backed by Amax and Sumitomo Shoji), are among other internationally-based members.

There is little doubt that this international development has served to strengthen the LME from every point of view—not the least of these being the improvement in the world-wide communications network. If there has been one less fortunate effect of the LME's development, then it is that many of the smaller City companies, once the mainstay of the Exchange, have been swept away by the tide of progress.

Ian Dunning

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12. Associated Lead Manufacturers Ltd.	34. Wilson Smitheth & Cope Ltd.
13. Maclaine Watson & Co. Ltd.	35. Charles Davis (Metal Brokers) Ltd.
14. Intel	
15. Triland Metals Ltd.	

Positions shown in black are vacant seats.

*Handwritten signature or mark.*

FARMING AND RAW MATERIALS

earer lead warning

Financial Times Reporter... ER BREAD prices are... Common Market grain... leading independent mill and grain merchant...

ool use ill in oldrums

of wool in the major countries generally depressed... Australia... Japan there is little... of any real improve...

Japan will buy stranded Australian sugar

BY OUR COMMODITIES STAFF

JAPANESE sugar refiners have said they will pay more than \$A80m to buy 213,000 tonnes of Australian sugar stranded in the Indian Ocean...

World tea pact hopes rise

BY OUR COMMODITIES STAFF

THE WORLD'S major tea producing nations are closer than ever to an international tea agreement which would regulate world production and trade...

New cocoa deficit predicted

THE INTERNATIONAL Cocoa Organisation statistics committee has predicted a first forecast for 1977/78 of a 53,000 tonne deficit in world production against grindings...

New U.S. gold contract

WASHINGTON, Oct. 18

THE COMMODITY Futures Trading Commission has approved the New York Mercantile Exchange's application to trade in a new 400-ounce futures contract...

Continuing surplus of copper forecast

BASE METALS

BY JOHN EDWARDS, COMMODITIES EDITOR

COPPER PRODUCTION will continue to exceed consumption in 1977 and 1978, and will remain in surplus supply until 1982...

India expects heavy summer harvest

BY K. K. SHARMA

NEW DELHI, Oct. 18

AS THE summer crop harvest gets under way in India, Government officials are forecasting a bumper record output of some grains...

commercial factors. In fact in some cases the national priority was to maximise production to obtain a larger share of the world market...

COMMODITY MARKET REPORTS AND PRICES

Table with columns for various commodities like Wheat, Barley, Soyabean Meal, and their prices. Includes sub-sections for Metals and Grains.

PRICE CHANGES

Table showing price changes for various commodities like Metals, Grains, and Soyabean Meal. Includes columns for Oct 18 and Month ago.

"Wolff's Guide to the L.M.E." advertisement. The most detailed book ever written on how to trade on the London Metal Exchange. Includes contact information for Rudolf Wolff & Co. Ltd.

U.S. Markets advertisement. Copper up as precious metals ease. COFFEE held lower on Commodity News profit-taking on lack of physical support...

DE BEERS INDUSTRIAL CORPORATION LIMITED advertisement. Further to the dividend notice advertised in the Press on the 24th August...

FINANCIAL TIMES advertisement. 1488.7 1484.2 1503.3 1522.8. Includes Dow Jones and Reuter's indices.

World Com Report advertisement. Further to the dividend notice advertised in the Press on the 24th August. Includes contact information for World Com Report.

ALCAN SMELTER WAGE DEAL advertisement. KIMTAM, British Columbia. A company spokesman said the agreement is subject to ratification by the 1,800-member union branch...

STOCK EXCHANGE REPORT

Gilts and equities rise on encouraging signs on wages Bear closing and genuine buying takes index up 14 to 513.1

Account Dealing Dates

Option Dealings Last Account Dealings... Oct. 13 Oct. 14 Oct. 15... Oct. 17 Oct. 18 Oct. 19... Oct. 21 Oct. 22 Oct. 23... Oct. 25 Oct. 26 Oct. 27... Oct. 29 Oct. 30 Oct. 31

New time dealings may take place from 9.30 a.m. onwards... The underlying technical strength in stock markets showed through quite clearly yesterday when the equity leaders moved ahead on a broad front to give the FT 90-share index its biggest rise in a day for over three weeks...

The equity leaders made steady progress throughout the early trading on bear closing and cheap buying in the absence of sellers, and more genuine buying was in progress during the afternoon... Prices were holding up well on the late trade, but the events on the wages front led to a late burst of strength in Lucas Industries, an index constituent, which closed 21p up after having been 29p at 3 p.m.

Rises outnumbered falls in all FT-quoted industrials by 5-to-1... The FT 90-share index rose 14 to 513.1... Gilt-edged also benefited from the improved outlook for restraint in wage settlements and recovered some of the recent lost ground...

Issues was at a rather low level

Nevertheless, prices were quick to respond to scattered demand in the prevailing thin conditions and gains of 1/4 were fairly common... Treasury 1 1/4 per cent, 1984, and Treasury 1 3/4 per cent, 1987, were both up by this much at 12 1/2 and 11 1/2 respectively...

The investment currency market saw a flurry of buying at the opening which was mainly of a speculative nature and had the effect of raising the premium from 9 1/2 per cent to 9 3/4 per cent... However, calmer conditions prevailed later and arbitrage offerings slightly lowered the premium to 9 1/2 per cent...

The major clearing Banks took a turn for the better with Barclays rising 10 higher at 330p and Midland and NatWest both 6 up at 348p and 268p respectively... Allied Irish, however, moved down to 140p for a loss on the day of 8 on vague suggestions of a rights issue...

Advances in the early afternoon were limited to 12p... The major clearing Banks took a turn for the better with Barclays rising 10 higher at 330p and Midland and NatWest both 6 up at 348p and 268p respectively...

Stores buoyant

A good late demand helped leading stores to close at the day's best with sentiment helped by the latest retail sales figures... Additionally favoured by bullish comment, Burton A stood out with a gain of 6 to 91p, while Gussies A added 10 to 23 1/2p...

In Foods, J. Bibby rose 8 to 18 1/2p as bid speculation revived, while Tate and Lyle, 10 1/2p, and Park Farms, 34 1/2p, put on 6 and 10 respectively... Broke Bond eased to 54p on slight disappointment with the results before closing unchanged on the day at 53p...

Elsewhere in Chemicals, Flisons rose 3 to 39 1/2p on a brisk demand and fresh speculative interest lifted Federated 4 to 6p... Bronze notable for a speculative improvement of 4 at 45p... Acrow added 5 to 93p and similar improvements were seen in Blackwood Hedge, 90p, Whescol, 81p and Shephard, 86p...

Oil improve late

After a fairly quiet start, buying interest in Oils began to have a noticeable effect around mid-afternoon and closing prices were the best of the day... British Petroleum gained 6 to 800p, while the partly-paid 8 higher at 865p...

North Sea oil orientated stocks among Newspapers gained ground... Associated closed 9 up at 17 1/2p and Thomson, 11 to the good at 69p...

Electro wanted... Earlier enhanced levels of leading miscellaneous Industrials caused by bear covering brought out genuine buyers and the market was quick to respond... Gains of 12 were recorded in Glaxo, 59 1/2p, and Beecham, 65 1/2p...

Properties attracted good buying interest, with some secondary issues making notable progress... Land Securities rose 6 to 21 1/2p following the £25m deal with the Col. Board... MEPC was 8 higher at 24 1/2p before ending a shade to close 8 firmer on balance at 28 1/2p...

Gold's pause

The continuing firmness of the investment currency premium and arbitrage rate enabled South African Gold to hold and in some cases to rise... British Overseas Airways, however, was held in check (3 lower at 17 1/2p) on the disposal by National Caribean of 2 better at 53p...

South African Gold to hold and in some cases to rise... British Overseas Airways, however, was held in check (3 lower at 17 1/2p) on the disposal by National Caribean of 2 better at 53p...

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FINANCIAL TIMES STOCK INDICES

Table with columns for indices: Government Sec., Fixed Interest, Industrial Ordinary, Gold Mines, etc. and rows for dates Oct 16, 17, 18, 19, 20, 21.

HIGHS AND LOWS S.E. ACTIVITY

Table with columns for High, Low, and S.E. Activity for various sectors like Govt. Sec., Fixed Int., Ind. Ord., Gold Mines.

OPTIONS TRADED

Table with columns: DEALING DATES, Last Dealings, Last Declared, For Settlement, etc.

NEW HIGHS AND LOWS FOR 1977

Table listing New Highs and New Lows for 1977 across various sectors.

RISES AND FALLS YESTERDAY

Table showing Rises and Falls Yesterday for various indices and sectors.

ENTERTAINMENT GUIDE

CC—These theatres accept certain credit cards by telephone or at the box office

Entertainment Guide listing theatres, operas, and performances. Includes sections for Opera & Ballet, Theatres, and specific showtimes.

RECENT ISSUES

EQUITIES

Table of recent equity issues including AGS, BP, and South Africa.

FIXED INTEREST STOCKS

Table of fixed interest stocks including Agri. Mov., Bldg. Materials, etc.

RIGHTS OFFERS

Table of rights offers including Agri. Mov., Bldg. Materials, etc.

ACTIVE STOCKS

Table of active stocks including Shell Transport, GEC, ICI, etc.

FT—ACTUARIES SHARE INDICES

These indices are the joint compilation of the Financial Times, the Institute of Actuaries and the Faculty of Actuaries

FT Actuarial Share Indices section containing tables for Equity Groups, Fixed Interest Price Indices, and other financial metrics.

AUTHORISED UNIT TRUSTS

OFFSHORE AND OVERSEAS FUNDS

Table of Authorised Unit Trusts listing various funds such as British Shipley & Co. Ltd., Guardian Royal Ex. Unit Mgmt. Ltd., and others with their respective details and performance metrics.

Table of Offshore and Overseas Funds listing international investment vehicles like Fidelity Mgmt. & Res. (Sds) Ltd., Kemp-Goo Management Jersey Ltd., and others.

BASE LENDING RATES

Table showing base lending rates for various banks and financial institutions, including N. Bank, Irish Bank, and others.

Advertisement for a stock exchange investor, featuring a phone number (01 246 3026) and promotional text about investment services.

INSURANCE, PROPERTY, BONDS

Table of Insurance, Property, and Bonds listing various providers like Abbey Life Assurance Co. Ltd., Equity & Law Life Ass. Soc. Ltd., and others.

Advertisement for CLIVE INVESTMENTS LIMITED, providing contact information and details about their investment services and Coral Index.

Handwritten note in Arabic script: 'هذه من الأصل' (This is from the original).

Brown Shipley the right size for your merchant bank

Founders Courts Limited London EC2R 2EJH

FT SHARE INFORMATION SERVICE

HOTELS—Continued

AMERICANS—Continued

BUILDING INDUSTRY—Cont.

DRAPERY AND STORES—Cont.

ENGINEERING—Continued

BRITISH FUNDS

Table of British Funds with columns for Stock, Price, and Div. Yield.

Shorts (Lives up to Five Years)

Table of Short-term investments with columns for Stock, Price, and Div. Yield.

Five to Fifteen Years

Table of Medium-term investments with columns for Stock, Price, and Div. Yield.

Over Fifteen Years

Table of Long-term investments with columns for Stock, Price, and Div. Yield.

Undated

Table of Undated investments with columns for Stock, Price, and Div. Yield.

INTERNATIONAL BANK

Table of International Bank investments with columns for Stock, Price, and Div. Yield.

CORPORATION LOANS

Table of Corporation Loans with columns for Stock, Price, and Div. Yield.

COMMONWEALTH & AFRICAN LOANS

Table of Commonwealth & African Loans with columns for Stock, Price, and Div. Yield.

LOANS (Miscel.)

Table of Miscellaneous Loans with columns for Stock, Price, and Div. Yield.

FOREIGN BONDS & RAILS

Table of Foreign Bonds & Rails with columns for Stock, Price, and Div. Yield.

AMERICANS

Table of American stocks with columns for Stock, Price, and Div. Yield.

CANADIANS

Table of Canadian stocks with columns for Stock, Price, and Div. Yield.

BANKS AND HIRE PURCHASE

Table of Banks and Hire Purchase stocks with columns for Stock, Price, and Div. Yield.

CHEMICALS, PLASTICS

Table of Chemicals and Plastics stocks with columns for Stock, Price, and Div. Yield.

BEERS, WINES AND SPIRITS

Table of Beers, Wines and Spirits stocks with columns for Stock, Price, and Div. Yield.

CINEMAS, THEATRES AND TV

Table of Cinemas, Theatres and TV stocks with columns for Stock, Price, and Div. Yield.

DRAPERY AND STORES

Table of Drapery and Stores stocks with columns for Stock, Price, and Div. Yield.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of Building Industry, Timber and Roads stocks with columns for Stock, Price, and Div. Yield.

ELECTRICAL AND RADIO

Table of Electrical and Radio stocks with columns for Stock, Price, and Div. Yield.

ENGINEERING MACHINE TOOLS

Table of Engineering Machine Tools stocks with columns for Stock, Price, and Div. Yield.

FOOD, GROCERIES, ETC.

Table of Food, Groceries, Etc. stocks with columns for Stock, Price, and Div. Yield.

HOTELS AND CATERERS

Table of Hotels and Caterers stocks with columns for Stock, Price, and Div. Yield.

INDUSTRIALS (Miscel.)

Large table of Industrial stocks with columns for Stock, Price, and Div. Yield.

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INDUSTRIALS—Continued

Table of industrial stocks including Anglo-Amalgamated, Anglo-South African, Anglo-Tex, etc.

INSURANCE—Continued

Table of insurance companies including Sun Alliance, The Prudential, etc.

PROPERTY—Continued

Table of property-related stocks including The British Land Co., etc.

INV. TRUSTS—Continued

Table of investment trusts including The British Land Co., etc.

FINANCE, LAND—Continued

Table of finance and land-related stocks including The British Land Co., etc.

International Finance DAIWA SECURITIES

MINES—Continued

Table of mines including Central African, Anglo-American, etc.

AUSTRALIAN

Table of Australian stocks including Anglo-Australian, etc.

TINS

Table of tin stocks including Anglo-Tin, etc.

COPPER

Table of copper stocks including Anglo-Copper, etc.

MISCELLANEOUS

Table of miscellaneous stocks including Anglo-Miscellaneous, etc.

NOTES

Notes regarding stock prices, dividends, and exchange rates.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including Rover, etc.

Commercial Vehicles

Table of commercial vehicle stocks including Leyland, etc.

Components

Table of component stocks including various engineering firms.

SHIPBUILDERS, REPAIRERS

Table of shipbuilding and repair stocks including Harland & Wolff.

SHIPPING

Table of shipping stocks including The P&O, etc.

Garages and Distributors

Table of garage and distributor stocks including various car dealers.

SHOES AND LEATHER

Table of shoe and leather stocks including various manufacturers.

SOUTH AFRICANS

Table of South African stocks including Anglo-South African, etc.

OVERSEAS TRADERS

Table of overseas trader stocks including Anglo-Overseas, etc.

RUBBERS AND SISALS

Table of rubber and sisal stocks including Anglo-Rubber, etc.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including News International.

TEXTILES

Table of textile stocks including Anglo-Textiles, etc.

PAPER, PRINTING

Table of paper and printing stocks including Anglo-Paper, etc.

TEAS

Table of tea stocks including Anglo-Tea, etc.

India and Bangladesh

Table of India and Bangladesh stocks including Anglo-India, etc.

PROPERTY

Table of property stocks including The British Land Co., etc.

TOBACCOS

Table of tobacco stocks including Anglo-Tobacco, etc.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks including various investment firms.

MINES

Table of mine stocks including Anglo-Mines, etc.

CENTRAL RAND

Table of Central Rand mine stocks including Anglo-Central Rand, etc.

EASTERN RAND

Table of Eastern Rand mine stocks including Anglo-Eastern Rand, etc.

FAR WEST RAND

Table of Far West Rand mine stocks including Anglo-Far West Rand, etc.

O.F.S.

Table of O.F.S. stocks including Anglo-O.F.S., etc.

FINANCE

Table of finance stocks including Anglo-Finance, etc.

DIAMOND AND PLATINUM

Table of diamond and platinum stocks including Anglo-Diamond, etc.

REGIONAL MARKETS

Table of regional market data including various exchange rates.

OPTIONS

Table of options data including 3-month call rates.

INSURANCE

Table of insurance stocks including various insurance companies.

BUY BRITISH STEEL FROM... WE STOCK... TEL: 01-647-4221

Ford workers move towards accepting 12% pay offer

BY PAULINE CLARK, LABOUR STAFF

THE CHANCES that Ford workers in Britain will finally opt to avoid confrontation with the Government on pay this year improved further yesterday as more than 5,000 shop-floor workers went overwhelmingly in favour of acceptance of the company's 12 per cent offer.

At Halewood production was returning to normal yesterday after 130 trim line workers resumed work. The men walked out last Thursday after allegedly striking his supervisor. Although lay-offs were avoided some 1,000 Escorts, worth £2m, were said to have been lost.

Rees hint of special deal for police

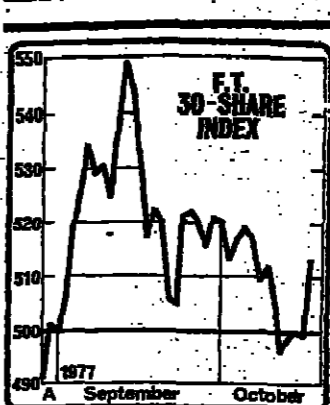
By David Churchill and Rhys David

A STRONG HINT that the Government may try to stave off a potential police strike and allow a "back-door" pay deal by taking account of the police's vital role in maintaining order was given yesterday by Mr. Merlyn Rees, Home Secretary.

THE LEX COLUMN Volume growth at Marks & Spencer

The highlight of Marks and Spencer's interim figures is the claim that non-food sales in the U.K. have risen by 8 per cent, against a decline for the whole sector. Price increases in the region of 12 per cent have left clothing sales up 20 per cent overall on the previous half-year.

Index rose 14.0 to 513.1



well, the growing world shipping surplus is starting to get into liner trade margins. M.S. while the bulk shipping division is just about breaking even with one vessel—chartered until 1980—supporting the rest of the fleet.

Strike warning over Shell staff cuts

BY RAY DAFTER, ENERGY CORRESPONDENT

SHELL U.K. OIL is cutting staff by about 400 because of the depressed state of the oil products market. But it has been told by the Association of Scientific, Technical and Managerial Staffs, whose members will be involved in the cuts, that enforced redundancies could lead to a strike at Shell oil refineries.

Shell replied that the numbers involved could well vary over the next two years. The re-organisation would be open to continual review and adjustment. It was also emphasised that the planned cut-back was in line with normal retirement from a total Shell U.K. Oil staff of 12,400.

Britain opens way to progress in EEC textile import talks

BY GUY DE JONQUIERES, COMMON MARKET CORRESPONDENT LUXEMBOURG, Oct. 18.

THE WAY was opened for formal negotiations to start between the EEC and about 30 textile supplier countries today when Britain lifted its veto on the European Commission's negotiating mandate.

New York \$95 return

By Michael Donne, Aerospace Correspondent

JETSAVE, the cheap-fare transatlantic charter operator, is to offer rates as low as \$95 London-New York return, next summer in competition with Skytrain and Stand-By and Budget-Plan fares.

Earnings

Mr. James Jardine, chairman of the Police Federation, which represents 110,000 police officers in England and Wales, said last night that he welcomed any formula the Government could find to pay police a realistic wage.

Brooke Bond

Brooke Bond's profits for year to June are a shade of June's rights issue for at £49.8m., against £26.1m. in 1976. But historic cost is more than usually less for a period during the tea price more than doubled.

Furness Withy

The Furness Withy share price has been buoyed up for months by bid hopes and not too much thought has been given to the deteriorating conditions in most of its major shipping markets.

Weather

Table with columns for location, weather conditions, and temperature ranges. Includes sections for U.K. TO-DAY, BUSINESS CENTRES, and HOLIDAY RESORTS.

Continued from Page 1

Leyland

recalling the conference later. In the event, the decision to accept the package went through by a big majority after a powerful speech by Mr. Scanlon: Mr. Evans estimated it at 160 to 100.

Central hijack plot suspected

BY IHSAN HIJAZI BEIRUT, Oct. 18.

THE HIJACKINGS of the Lufthansa jet and of a JAL airliner by Japanese Red Army terrorists recently, may both have been planned by a central organisation it was understood in Beirut.

Continued from Page 1

Leyland

recalling the conference later. In the event, the decision to accept the package went through by a big majority after a powerful speech by Mr. Scanlon: Mr. Evans estimated it at 160 to 100.

MPs seek Scottish inquiry

THE GOVERNMENT is to be urged to set up a body to look into Scotland's penal system and sentencing policy, an all-party group of MPs announced in Edinburgh yesterday.

Saudis' key role

Soviet Union early this year to switch support to Ethiopia. The desire to maintain good relations with the Saudis is thought to also be a reason for the surprising unreadiness of South Yemen to accept the hijackers, an aid is thought that East Germany may also have been persuaded them not to.

A few words about Tokai Bank's expanding international operations.

Advertisement for Tokai Bank featuring a cartoon illustration of a man and a woman talking, with text bubbles and a list of bank branches.